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**Learning and Teaching in the Non-Formal Virtual World: A
Multimodal Study of Learning-Teaching Interaction in the Virtual
World of Schome Park**

Submitted in partial fulfilment for

Master of Research (MRes)

The Faculty of Education and Language Studies

The Open University

By Santosh Sapkota

Submission date: 8th September 2008

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Abstract

Recently, there has been growing interest in the possibility of utilizing three-dimensional (3D) virtual worlds, such as Second Life (SL), as a platform for education.

This micro-ethnographic investigation based on video-recorded data, and conducted employing participation observation, explores the way in which the processes of guided participation, are negotiated multimodally, while accomplishing problem-solving tasks, in Schome Park (i.e., a teen grid located within SL).

The study reveals that the experts structured novices' efforts and participation by employing strategies such as providing directing instruction, subdividing the task, and demonstration. However, it was found that there was a lack of affordances in order to be able to view demonstration. As a result, the significant aspect of learning that occurs through observation and active participation, or through guided or intent participation, has been demoted in the SL environment. Additionally, it was found that the constraints of technology restricted participants use of speech/voice effectively in the process of pedagogic task accomplishment. Therefore, typed-writing and Netspeak (i.e. hybrid language having features of speech, writing and electronic mediated properties), actions and visual images were the most frequently used modes used to enhance the processes of learning and teaching.

Finally, the study highlights some issues and challenges encountered while conducting ethnographic study in a 3-D graphical environment, and also presents some advantages, and limitations, of conducting research using Avatars.

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CHAPTER ONE: AIMS AND OBJECTIVES

1.1 General Background

Education practitioners, professionals, and researchers have begun to investigate the potential of virtual worlds, to identify possibilities of creating online educational environments. Several universities around the world have been investigating Second Life (SL), a 3D virtual world, for its educational potential. One such venture is the attempt by the Open University which has established three islands in SL: SchomeBase and CetlMent in the Main Grid, and Schome Park (SP) in the Teen Grid. The SP Project (SPP) (<http://www.schome.ac.uk>), for example, is currently using the Teen Grid of SL for education in order to 'develop a new form of educational system, and to find new approaches to support learners' i.e. Schome (not school, not home) (<http://www.schome.ac.uk/wiki/Schome>).

Although there has been extensive work to conceptualize, and understand, social interactions in face-to-face communication, the literature review suggests that research into learning in an informal graphical environment is a comparatively new field of inquiry. Accordingly, the first purpose of this 'micro-ethnographic' study is to characterise the nature, and forms, of learning-teaching encounters in the virtual world of SP, using participant observation. Micro-ethnography is generally a small scale study, which involves focusing on a particular aspect of a topic in one location, such as a classroom (Greenman, 2005), and can be carried out within a shorter period of time – from a couple of weeks to a few months (Bryman, 2004).

It has been argued that 'all interactions are multimodal' (Norris, 2004) in that people draw on different meaning-making resources, in order to articulate the meanings demanded by the practical social requirements of different communities, and in different communicative contexts (Kress et al, 2001:11). Therefore, it is also possible to affirm that 'learning is interwoven with multimodal interaction' Moura (2006:2). While a number of studies have focused on multimodal interactions in face-to-face settings, comparatively few have focused on the online graphical environment, therefore, the second aim of the study is to explore multimodal learning-teaching interactions in the virtual online environment of SP. The investigation is informed by various theoretical constructs, and methodological underpinnings.

1.2 Theoretical and Methodological Perspectives

Theoretically, firstly, this qualitative study has been informed by socio-cultural approaches to social interaction which have their roots in Vygotsky's socio-cultural theory of learning. This approach views learning as a cultural practice, and takes into consideration 'tool-mediation'. All human actions are mediated by tools, or signs (Wertsch, 1991) such as language, technology, and symbols. For instance, in SP, social (inter)action is mediated by technology, and the affordances, and constraints, of such tools shapes interactions and learning. Another key construct of socio-cultural theory is the zone of proximal development (ZPD) which refers to 'the gap that exists for a given child at a particular time between his level of performance on a given task, or activity, and his potential level of ability following instruction' (Wood, 1998:160).

Influenced by Vygotskian ideas of the ZPD, some scholars have put forward sociocultural approaches to learning which emphasize the processes, such as scaffolding (Wood, Burner and Ross, 1976; Wood 1998), contingent instruction (or effective instruction) (Wood, 1978), and apprenticeship and guided participation (Rogoff, 1990; 1995). Scaffolding refers to a process in which experts, or more knowledgeable others, 'help or support learners/novices to move beyond their current level of understanding by giving them cues, suggestions or even direct guidance at appropriate moments, in their investigation or activities' (Westwood, 2004: 23). According to Wood, contingent instruction refers to the extent to which the expert adjusts the level of control or support according to the learners needs, i.e., offering more help when learners struggle, and withdrawing help, when they succeed. Whereas Rogoff (1990; 1995), who incorporated Vygotsky's ideas in her cross-cultural research, considers the concept of 'guided participation' as more inclusive, and universal, than notions like 'scaffolding'. The concept of guided participation (GP) stresses both the active participation of learners, as well as the role of their social partners, who provide guidance and support, as they participate in culturally valued activities.

According to Rogoff (1990, 1995) in the processes of GP, experts, or more knowledgeable persons, provide a 'bridge' between what an apprentice already knows and what s/he needs to know to complete the task successfully. Similarly experts scaffold or 'structure' the task (structuring), and novices' efforts, in terms they can understand, and finally as the learner succeeds, tutors/experts 'transfer' the responsibility for handling the task to the learner, so that the apprentice can take charge of his/her own learning.

Secondly, since GP involves tacit and explicit forms of communication (verbal and non-verbal), this study draws on social semiotic approaches to multimodality (e.g., Kress and van Leeuwen, 2001; Kress et al 2001; Levine and Scollon, 2004; Norris 2004), which provide a comprehensive theoretical framework for understanding the complex array of semiotic resources, used to create meaning (O'Halloran, 2007). Multimodality has been defined as 'the use of several semiotic modes in the design of a semiotic product, or event, together with the particular way in which these modes are combined to make meaning' (Kress and van Leeuwen 2001:21-22). In this study, mode refers to 'a socially and culturally shaped resource for making meaning' (Bezemer and Kress, 2008: 172) such as image, writing, layout, speech, gestures, and moving image. In this regard, the study aims to examine multimodal learning-teaching interactions that take place while carrying out practical problem-solving activities, e.g., building three dimensional objects in SL. Construction tasks, which have problem-solving elements in them, were conducted more frequently in SP, and therefore, this study focuses on them to obtain a higher degree of insight into processes of pedagogic task accomplishment.

Finally, the research methodology adopted in this study relies on the epistemological underpinnings of ethnography, and has been informed by the recent development of online ethnography (eg, Paccagnella, 1997), or virtual ethnography (e.g. Hine, 2000; 2005), sometimes also called netnography (Kozinets, 2002). I use the term 'virtual ethnography'. This approach considers the internet as both culture and cultural artefact, in its own right (e.g., Hine, 2000:14). Hine argues that virtual ethnography is 'ethnography of, in and

through the virtual' (2001:65). Based on my own experience as an ethnographer working in a graphical online environment, and against the backdrop of virtual ethnographic studies (e.g., Hine, 2000; 2005; Williams, 2007), this study also aims to address some issues related to conducting ethnography in virtual environments.

It is believed that the above mentioned theoretical constructs provide in-depth understanding of how the processes of GP are accomplished multimodally in SP.

1.3 Aims and Objectives

The general aim of this study is, first, to investigate how processes of teaching and learning are negotiated multimodally, while carrying out practical-problem solving activities in the virtual world of SP.

1.4 Specific Objectives

This research has the following specific objectives:

- a. To investigate the nature and forms of instructional strategies and techniques in SP
- b. To examine which semiotic resources are being used in such an environment, and to identify the affordances and constraints of these resources, regarding learning-teaching interactions
- c. To investigate the extent to which 'conventional' ethnographic principles are applicable/transferable to researching in the virtual world of SP

With these objectives in mind, my research is guided by the following research questions:

1. What is the nature of learning-teaching encounters in SP? How are the processes of GP, in particular, 'structuring' accomplished multimodally?
2. Which modes are being used during learning-teaching interactions? How do they contribute to meaning making?
3. What are the similarities and differences in conducting ethnographic study in face-to-face, and in virtual, environments? What does the notion of 'field' and 'fieldwork' mean in such an environment? What issues and challenges do researchers face, while conducting ethnography in an online graphical environment? Is there any advantage in the researcher having an Avatar?

1.5 Delimitation

The initial aim, of my analytical endeavour, was to identify various modes afforded by SL Client, how these semiotic modes are integrated during the processes of GP, and how this multimodal integration is simultaneously fulfilling three kinds of meanings, namely representational, interactive, and compositional (see chapter 4). However, at a later stage in the analysis, it was considered almost impossible, particularly due to the constraints of space in this dissertation, to carry out such a comprehensive analysis. Therefore, the study is limited to:

- a. the analysis of one aspect of GP, i.e 'structuring' as it was found to be the most predominant instructional strategy
- b. the analysis of non-verbal modes such as visual images and actions, however, the unique mode 'Netspeak' was also considered.

- c. Finally, it deals only with one area of meaning - interpersonal/interactive meaning, with a special consideration to social distance, attitude, online personas, and perspective.

CHAPTER TWO: LITERATURE REVIEW

This chapter will examine the literature pertaining to education in 3D virtual environments, learning-teaching interactions in an informal setting, and multimodal interactions in educational settings.

2.1 Education in 3-D virtual environments

In recent years, a growing number of educators and researchers have been exploring the possibilities of utilizing the virtual world in education, and many colleges and universities have established their presence in virtual environments such as SL, by building virtual campuses, holding virtual conferences, and running classes. Kirriemuir (2008) reports that about 'three-quarters of UK universities are actively developing, or using, SL at the institutional, departmental and/or individual academic level' (p2) for further and higher education.

SL provides a wide spectrum of activities for students, such as simulation, role playing, creation and manipulation of objects.. For example, Coffman and Klinger (2008) argue that SL has the potential to provide rich and engaging learning experiences for students, and 'by utilizing a constructivist approach to learning, students can discover content and create a meaningful connection with the content through creativity and imagination' (p29). By examining current applications of virtual worlds in education, and placing learning and teaching within the constructivist approach, the authors state that 'while there are many issues to consider in terms of a school's technology capabilities to incorporate such 3D tools

in a curriculum, research is showing that immersing students in a multi-user virtual environment (MUVE) is both engaging and meaningful'. This descriptive article, however, does not offer empirical evidence for the claims being made.

On the other hand, Cheal (2007), argues that Bloom's (1956) taxonomy of higher order knowledge skills, such as applying knowledge, analysing, synthesising, and evaluating, are all applicable in SL. Cheal suggests that virtual worlds, such as SL, provide opportunities for both the instructor and the student to create and manipulate objects, for example, students can create objects, such as historical buildings, and have a debate, or explore and interact with 3D objects while reading the text, or have a class build an art museum around specific themes, but there are also drawbacks:

"Students do not need, or like to use, SL as a lecture replacement. So all the auditoriums, and classroom buildings, may be misplaced effort. Slide shows and streaming video, although ingenious, are also not best when viewed from SL, since passive viewing is boring in a world that promises action. Students do like to use SL for fashioning personal avatars, for exploring new places, and for group events or activities" (Cheal, 2007: 209).

In order to explore the educational potential of SL, to try out ideas, and to provide students with a new learning experience (outside home, and outside school), the SPP, at the Open University, set up a pilot project (2007) in SL Teen Grid, in which 150 students (aged 13 to 17) from NAGTY (The National Association of Gifted and Talented Youth) were involved in

learning various skills on the virtual island of SP. The final report stated that the students, who responded to a questionnaire, following the project, found that they had gained competency in 44 identified SL skills, from a baseline of near to 0 to mean levels of between 2 and 4.3 in all skills. The study claims that many of these skills have real-world relevance such as manipulation of measures, and complex 3D shapes. It was also claimed that those who fully engaged with SP, and the whole Shome community website, significantly enhanced their 'knowledge age skills'. The 'knowledge age skills' framework, set up by staff at NAGTY for the SPP, and further developed by the project team, gives 4 levels to the metacognitive skills of communication, teamwork, leadership and creativity, to gauge competency in an information age environment. As an illustration of levels, in creativity skills, Level 1 is 'Questions and challenges', while Level 4 is 'Reflects critically on ideas and practice'. The study suggests that 'SL does offer affordances that other media lack, and that it has the potential to offer powerful new forms of support for learning, particularly in relation to knowledge age skills' (p. 3). Finally, what they observed may not be generalisable to pedagogical practices in SL as a whole, as students had restricted access to the resources compared to other locations in the SL main grid, and also the students involved in the pilot belonged to a highly talented group.

However, as the focus of the study is on the teaching-learning interactions during construction tasks, in SP, which is a non-formal site of learning, it is relevant to draw on seminal works on interaction and learning in informal face-to-face settings.

2.2 Learning and teaching in an informal setting

The nature and form of interaction in a learning environment may range from asymmetrical (between expert and novice/more knowledgeable to less knowledgeable) to symmetrical (between peers/novices) relations, in terms of the degree of knowledge and expertise participants bring with them, into the particular context of their interaction. Conventional learning and teaching encounters, such as adult-child interactions, are characterised by asymmetric relations where adults not only 'transfer' the knowledge, but also adjust, or control, their support, based on the children's ZPD.

A number of studies have explored adult-child interactions in an informal setting, but those related to construction tasks are focused on here, as these are the most relevant to this study. Influenced by the work of Vygotsky, and the concept of ZPD, Wood (1998) explored adult-child interaction during a practical problem solving task with a single solution, where mothers were asked to teach their children the specially designed construction of a toy, to investigate how the process of 'contingent control' of learning, leads to effective learning outcomes. That is to say, in the process of 'contingent' or 'effective' instruction', adults control the task, and prompt and assist the child to complete the tasks that are initially beyond the child's capacity by applying the 'contingent-shift' rule (e.g., offer more support when the child fails, and less support when the child succeeds).

Obviously, the metaphors, such as 'scaffolding', 'contingency and control', and 'transformation,' give the impression that learning and teaching is a process of

'transmission' of knowledge and skills, from omniscient adults to children. Such a 'unidirectional' characterisation marginalises the learner's creativity, and contribution, in the teaching and learning process. Wood's work has been criticized, (e.g., Hoogsteder et al 1998) on the grounds that the teaching and learning process should not be dominated by an adult, or more knowledgeable other, but it should be jointly regulated by adult and child. They consider learning as a joint enterprise, where the learner has much more freedom to accomplish the task, getting numerous opportunities to explore, to make mistakes and to find solutions for themselves. It is important, however, to note that both studies neglect the importance of the orchestration of different modes in interaction, which has a direct impact on what is communicated, and how it is communicated, and on the understanding of the information communicated. Although Wood discusses how different modes are harnessed in interaction, he separates them analytically, seeming to look at them operating independently, rather than considering the interplay between modes.

As opposed to 'transmission' models, Rogoff (e.g.1990) presented the idea of 'GP', which suggests both guidance and participation are essential for children's cognitive development, as children engage in culturally valued activity (Rogoff, 1990:8). Rogoff argues that 'guided participation' involves three processes: *building bridges*, *structuring situation*, and *transfer of responsibility*. The experts, or more knowledgeable others, help to build a bridge between the 'old' and 'new' knowledge, and skills, by employing strategies such as suggesting how a new situation resembles an old one (e.g. providing verbal labels that classify objects and events: 'you need to put the things together that go together?'); using emotional expressions, and nonverbal cues, to aid novices' understanding of a new situation (e.g. smile

to indicate and encourage novices to proceed with the task); seeking a common perspective, and involving novices in the same agenda. Similarly, experts scaffold and 'structure' novices' participation in activities using techniques such as arranging material; determining tasks/activities for learners to observe and participate in; subdividing/simplifying the tasks into manageable sub-goals; handling difficult aspects of the task; providing direct instruction and help in activities; providing explanation and demonstration;; offering reminders about the overall goal of activities and directing attention to the process. Novices involved in structuring may seek assistance and clarification through verbal, and non-verbal, means of communication. Finally, effective guidance involves gradual transfer of responsibility from experts to novices, as novices acquire and develop the knowledge and skills needed to independently handle the tasks. In other words, 'effective transfer is facilitated by sensitivity to learners' competence so that responsibility for managing situations is given according to their skills' (Rogoff, 1990:100). Moreover, Rogoff states that 'guidance may be tacit or explicit, and participation may vary in the extent to which children, or caregivers, are responsible for its arrangement' (Rogoff, 1990:8). Central to the notion of GP is Vygotsky's concept of intersubjectivity, i.e. mutual understanding, and 'sharing of focus and purpose between learner and their more skilled partners' (Rogoff, 1990:8). However, due to constraints of mediated technology, and lack of face-to-face interaction between participants, online environments can also impose some limitation to the potential for intersubjectivity to develop. Synchronicity problems can occur in SL chat, for instance, due to 'lag', or the high number of participants involved, and can cause misunderstanding when chat text does not appear on the screen in real-time.

Based on a large cross-cultural study, on the role of children's social interaction with adults and peers, in learning, Rogoff and her colleagues (1993) elaborated the model of GP to *intent participation* - the process of learning by keenly observing, watching, and 'listening in' (or eavesdropping), in anticipation of eventual participation, the activities of experts and other participants. It involves intense concentration, attentiveness and high motivation where learners observe more experienced companions' activities to figure out processes they expect to engage in. They report a case in Guatemala, where a novice learned to weave simply by observing skilled weavers for weeks, asking no questions and receiving no explanation.

Following the claim that all interaction is multimodal (Norris, 2004:2), it has been considered essential to draw on literature on multimodal interaction in educational settings as it provides theoretical and analytical frameworks for understanding multimodal teaching-learning encounters in SP.

2.3 Multimodal Interaction and Multimodal Learning and Teaching

In recent years, teachers, educators and researchers have been investigating multimodal interaction and its importance in teaching and learning. This approach holds the belief that communication, or interaction, is almost always multimodal (e.g., Kress et al, 2001:3; Norris, 2004:2). Deriving from Halliday's social theory of communication (Halliday, 1978), this view challenges the traditional belief that interaction, and teaching and learning, is simply a linguistic accomplishment. Instead, learning-teaching interactions can be seen as multimodal accomplishment (Kress et al, 2001). This approach emphasises the use and

importance of 'orchestrating' various semiotic modes in teaching and learning, and communication as a whole.

Recently, a number of multimodal studies have been conducted within educational settings. Kress et al (2001), for example, conducted a multimodal study of teaching and learning in secondary school science classrooms, and found that during activities 'meaning resides in the combined effects of the orchestration of the modes by the producer and by the reproducer, in the interaction between what is said, what is shown, the posture adopted, the movements made, and the position of the speaker and the audience relative to each other in the interaction' (p 14). Drawing on video recordings of lessons observed, texts used in lessons, texts produced by students and teachers in lessons, and the video recording of a focus group discussion, the study suggests that 'learning is realised through the interaction between visual, actional and linguistic communication' i.e., through different modes (2001:1). They demonstrate that the study, and drawing, of onion cells in a year 7 science classroom, involved a multiplicity of modes, for example, it involved speech, action, and image. The study also illustrates how the teachers and students orchestrate, choose from, engage with, and transform between, various modes to make meaning.

The literature review provides possible theoretical contributions to the understanding of multimodal teaching-learning interactions, in virtual environments. While research evidence suggests that learners learn effectively through apprenticeship, observation and active participation (both guided and intent participation) in teaching-learning encounters in face-to-face interaction, it is not yet known whether such findings can be applied equally to

learning-teaching encounters in online 3D environments, where the nature and forms of apprenticeship, observation (without face-to-face visual cues) and participation differ considerably from face-to-face encounters. Social semiotic approaches to multimodality also suggest that learning and teaching encounters are 'woven with multimodal interaction' (Moura, 2006). However, the extent to which learning-teaching encounters are accomplished multimodally, in technologically-mediated virtual environments such as SP, is yet to be found.

Finally, a number of scholars (e.g., Hine, 2000; Leander and McKim 2003), have conducted research in online textual environments using participant observation, both synchronous and asynchronous. They argue that online environments have been established as social, and cultural, contexts in their own right (Hine, 2000; 2005). Nevertheless, there is a lack of work on the application of the participant observation method, in online graphical environments. This project draws on the idea of virtual ethnography as a basis for discussing issues of utilizing participant observation in an online graphical field such as SP.

To fill the gap in existing literature, this study aims to investigate the way in which the processes of GP are accomplished multimodally, using ethnographic participant observation, which itself is a new method of inquiry with regard to online 3D graphical environments.

CHAPTER THREE: RESEARCH METHODOLOGY AND ANALYTICAL FRAMEWORK

In this chapter both the methodology selected and analytic framework adopted, for conducting this study, is discussed.

3.1 Ethnography and Participant Observation

In its most characteristic form, ethnographic research, which has a long history in both social and cultural anthropology, and in sociology, (Delamont, 2004:219), usually 'involves the researcher participating, overtly or covertly, in people's daily lives for an extended period of time, watching what happens, listening to what is said, and/or asking questions through informal and formal interviews, collecting documents and artefacts' (Hammersley and Atkinson, 2007:3). Participant observation includes a combination of different methods of investigation, including various kinds of ethnographic interview, focus groups, archival research, life histories, diaries, and other personal documents (Marshall and Koenig, 2001: 171).

The terms ethnography and participant observation are sometimes used interchangeably (Sveningsson, 2004; Delamont: 2004; Benjamin, 2004), and are often considered as synonyms (Delamont, 2004), therefore very difficult to distinguish (Bryman, 2004), because there is substantial overlap between the two (Alexander, 1982). For example, both of them can mean 'spending long periods watching people, coupled with talking to them about what they are doing, thinking and saying, and are designed to see how they understand their

world' (Delamont: 2004:218). As in ethnography, participant observation is often combined with other methodologies such as interviewing, and the analysis of documents (Sveningsson, 2004: 46; Bryman, 2004). For the purpose of my study, I use 'ethnography' as the most inclusive term because it is 'both a process and a product' (Boyle, 1994:161). In other words, it is the process of collecting descriptive data, about the phenomenon being studied, and the written outcomes of ethnographic research (Bernard, 2000; Bryman, 2004). Participant observation has been considered the main ethnographic data-collection method here.

Participant observation is characterized by a continuum, in the role of the researcher, of changes from being a detached observer of the situation, to both participant in, and observer of, the situation (Punch 2005: 182). Depending on the degrees of involvement with, and detachment from, members of the social setting being studied, the participant role may be as a 'complete participant/insider', a 'complete observer/outsider', or the role invariably falls along a continuum between these two poles (Jorgensen, 1989, Bryman, 2004; Hammersley and Atkinson, 2007). Gold (1958) outlined four types of roles for the participant observer which can be arrayed on a continuum: the complete participant, the participant -as-observer, the observer-as-participant, and the complete observer.

3.1.1 Typology of Field Roles

Complete participation: In this role the researcher's activities are wholly concealed (Hammersley and Atkinson, 2007), therefore the researcher's true identity, and purpose of

the research, is not known to the participants (Bryman, 2004) but the researcher immerses himself, or herself, fully in the setting, in order to obtain an insider's perspective.

Complete Observer: The researcher, in this role, is not involved in any activities of the group s/he is observing, and has 'no contact at all' with its members (Hammersley and Atkinson, 2007: 84). The researcher is a covert observer who is like a 'fly on the wall'.

Observer-as-participant: The researcher is as an overt observer, but participates partially in activities, because emphasis is more on observation than on participation. The participants are aware that they are being observed. In this role, the researcher can be an interviewer (Bryman, 2004).

Participant-as-observer: In this role, researchers observe as well as participate in the activities they are studying, but emphasis is more on the centrality of participation, and social interaction, over observing in order to develop a close relationship of rapport and trust (Walsh, 2004). Bryman (2004) suggests that this role is 'the same as the complete participation one, but members are aware of the researcher's status as a researcher' (pp 301).

For the purpose of my research in SP, as a member of the group being studied, the role of participant as observer was adopted, because, firstly, an insider's view point is 'important in gaining an understanding of the culture, language and reality of participants' (Roberts et al, 2001). Secondly, it was believed that an observer-as-participant role may not provide in-

depth understanding of the nature of interactional, pedagogical and other activities in SP. Thirdly, while adopting the role of complete participant and complete observer, the researcher's identity and the purpose of research are concealed, and these roles are ethically problematic, in that they disregard participants' right to privacy and confidentiality. Participants of this research were aware that all their interactions were being recorded because in SP the researcher had to wear the 'logging chat' tag above his Avatar's head to indicate this. Finally, as indicated in the literature review, there is a lack of work on the application of participation observation to a 3D graphical environment such as SL.

While a participant-as-observer role can provide first-hand knowledge of the contexts, and the behaviour and practices of the people being studied, it also has some disadvantages in that it carries the danger of 'reactivity' and of 'going native' (Walsh, 2004:230). Reactivity refers to the extent to which the presence of the researcher affects/alters the behaviour of those being studied. It has been argued that the mere presence of the researcher will inevitably influence the situation, and the people that are under study, simply by being part of it (Sveningsson, 2004), and it can sometimes make people behave differently than they otherwise would. The term 'going native' refers to the problem where researchers become over-involved with the people being studied, and lose the detachment, which is an essential part of their role as participant observers (McNeill and Chapman, 2005:112). Building a rapport, and a relationship of trust, and engaging more with the people and their activities, will help to reduce reactive effects. Furthermore, the researcher must constantly reflect upon what his or her presence does to the situation, and to the research participants (Sveningsson, 2004). In other words, researchers must be sensitive, and aware of the

reactive effects, and try to minimize them. This awareness on the part of the researcher is often called 'reflexivity'.

3.2 Sources of Data

Learning teaching encounters in SP (details of the virtual setting of SP in chapter 4) were observed over a 6-week period in April - May 2008 when I visited SP at least once every day. I video recorded all the sessions, in which I participated, using Camtasia Studio (details in Chapter 4). Data includes video recording of activities in SP, chat logs, field notes, and screen-captured images.

3.3 Ethical Considerations

This study complies with ethical guidelines as outlined by the British Educational Research Association (BERA), British Association for Applied Linguistics (BAAL) and requirements of the Open University (OU) ethics committee.

The study raises several ethical issues, namely, informed consent, data protection, and privacy and confidentiality. The SPP, which has been approved by the OU Human Participants and Materials Ethics Committee (HPMEC), has notified all the participants about the purpose of the research/project, and they are aware that participation is voluntary, and that they are free to withdraw at any time. It is important to note that in face-to-face settings one is mindful of a number of behavioural reactions that can signal withdrawal, but in a virtual setting it is often difficult to identify such reactions. However, there are alternative ways to raise such concerns. For example, Lisa (name changed), who did not feel

comfortable being included in research, raised her concerns through the Forum, i.e. a place for online discussion (c.f. Appendix:1), before she decided to withdraw. Finally, the Schome wiki, a collaborative website (c.f. Appendix:1), contains a 'staff research interests' page where the purposes of research activities, within the community, are stated.

Following the requirement of the Data Protection Act 1998, all the video and paper data have been stored securely in a locked cabinet. Electronic data is password protected, and can only be accessed by the author of the study, his supervisors and the core members of SPP. All the data will be destroyed after this dissertation has been approved, unless utilized for future research.

Another ethical responsibility is to preserve the confidentiality and anonymity of the participants, to respect their dignity and minimise harm. While presenting these research findings, any information that may disclose participants' identities has been removed and information collected used only for research purposes. Participants were not asked for their real life (offline) identities, however, even online identities themselves, gain reputation over time, so these were replaced by the use of pseudonyms, and participants' Avatar names that appeared in 'chat logs' (record of interaction), and still images, have been anonymised.

Finally, to get access to the 'field' i.e. SP, CRB checks, both in the UK, and Nepal were carried out, as the researcher has lived in the UK for less than five years. Enhanced CRB disclosure is essential for any adults trying to involve themselves in SP, in order to assure a safer learning environment for young people (13-17 years).

CHAPTER FOUR: COLLECTING AND ANALYSING THE DATA

Firstly, the aim of this chapter is to provide an introduction to the research setting of SP, the participants of the research, and the type of activities conducted, and observed, in SP. Secondly, it describes the use of software employed to video-capture in-world activities. It also describes the 'opportunistic' sampling method used on the video data, and the criteria for this within the samples selected for analysis. Finally, it describes the social semiotic approach to multimodality which has informed the data analysis process.

4.1 Context of interaction: an ethnographic perspective

4.1.1 The SL interface and the virtual setting of SP

SP is the Schome island on the Teen Grid of SL. To have access to SP, all residents/users need to install the SL Client, a free downloadable programme, which enables its users to interact with each other through their Avatars using both voice and text chat. When users are talking, the green wave sign will appear above their avatar. Limited 'speech gestures' are also included in the Client, to enhance the feature further.

Figure 4.1: Introduction to SL Client Screen



In SP Avatars typically communicate using text chat. When users type some text in the chat box (figure 4.1), and hit the enter/return key, the chat appears in the main window (figure 4.1). While they are using their keyboards, their virtual hands show 'air typing' animation, which will also produce a typing sound in-world, signalling to others that they are in the middle of typing something. By default, chat text will appear in the bottom left corner of the users' screens, preceded by their names.

SP consists of few small islands surrounded by water, and trees. There is a tranquil Japanese garden where ethics and philosophy can be discussed, a Pink Place to sit in, and the Arena

which is the largest of many meeting places. Other sites are on the archipelago, and include Schomehenge, the Skills area, (including the Photo Booth), the Games Platform and the Sonic Race Track. When constructing objects, the 'Sandbox' (space allocated for anyone to 'build', c.f Appendix 1) must be used, and the objects will be wiped out at the end of a session.

4.1.2 Activities and spatial arrangements

Activities are organised, voluntarily, mostly by more competent staff (Sparkers) or Schomers. For example, Machinima and Terraforming sessions were organised by Sparkers whereas history and archaeology sessions were led by Schomers. Machinima (i.e., filmmaking in 3D world using virtual characters) and Terraforming dealt with more technical activities such as creating 'Machinima' and changing the structure of land, respectively. Whereas in 'History and Archaeology' sessions, discussions were held on topics such as an introduction to Rome, and Roman roads, and replications were made of historical buildings such as Stonehenge and an Aqueduct.

Activities took place in different locations, both inside and outside, depending on their nature. For instance, construction task related activities, which required more space to build, took place outdoors in a 'sandbox' which is an island surrounded by sea, with trees around the edge.

4.1.3 Participants

In SP Student user/residents (13-17 years) are known as Schomers and the Staff as SParkers. Both SParkers and Schomers participated in the activities conducted, and can either be novice or expert. The number of participants in these sessions varied considerably, between at least 4 and up to 10, depending on the nature of the activity, and due to the fact that participation was optional. However, regular participants in Aqueduct and Stonehenge sessions included the experts Max, Kim, and Paul, relatively skilled member Toby, and novices Kitty, Alisha and Yati.

4.2 Data Collection

4.2.1 Use of Software Programmes: Camtasia Studio 5.0 and SnagIt 9.0

Learning-teaching encounters in SP were recorded using the Camtasia Studio 5.0. This not only captures virtually any type of on-screen activity, as video, but also records any sound produced by a sound card. It enabled the researcher to video capture processes of multimodal learning-teaching encounters in SP, as activities unfolded, and, therefore, repeated viewing of the data while transcribing, and analysing multimodally, was possible.

SnagIt software was used to take still images from the captured videos, to edit images, and Avatar names, which appeared over their heads, and in the chat window, to ensure participants' anonymity.

4.2.2 Sampling Method

The opportunistic sampling method, also referred to as the emergent sampling method, was employed in this study. With this method, fieldwork often 'involves on-the-spot decisions about sampling to take advantages of unforeseen opportunities during actual data collection' (Patton, 2002:240). This sampling method helped to take advantage of developing events, and to select opportunities and capture important moments as the activities unfold.

Although many learning-teaching sessions, and activities, were observed and video-recorded, keeping my research questions in mind, it was not necessary or possible, within the limitation of the research, to analyse all the video captures. For the purpose of this research, I sampled the video data from six 'history and archaeology' sessions, related to building an Aqueduct and Stonehenge, as they represent broad patterns in the data. Particularly, sessions on the construction of 'Aqueduct' and 'Stonehenge', have been used for the purpose of this study, as there were three sessions devoted to each construction, giving an adequate length of time to study interactions, and use of modes.

4.2.3 Sampling within the Case/Videos

Using the recorded History and Archaeological sessions, my aim was to trace how processes of structuring in learning-teaching encounters were accomplished. Revisiting the video data, and chat logs, and organising it in the light of my research questions, the following criteria for sampling the data were generated:

- a. The first criterion was to select examples of points where structuring was being accomplished
- b. The second criterion was to focus on critical instances of learning-teaching encounters where a blend of multimodal resources was in interplay.

4.3 Data Analysis

The data analysis consisted of a comprehensive review of chat logs, field notes, and videos. After intensive revisiting of data, and considering categories suggested by the literature review such as 'structuring' strategies, coding categories were developed, following the qualitative data analysis framework presented by Huberman and Miles (1994), in order to investigate and identify common, and contrasting, patterns in the data. However, coding categories suggested by the literature were only included if they arose from the data. For example, 'building bridges' and 'transfer of responsibility' were excluded from analysis which required reconsideration of the research question, whereas some categories such as 'typed-writing' and 'Netspeak' were new to multimodal frameworks, and therefore, have been included while analysing modes.

Data in the present study was coded in three ways. The first coding consisted of 'structuring' strategies employed in SP (c.f. Appendix 2) such as direct instruction, simplifying a task, and demonstration. The second coding was devised to look for various modes, such as 'typed-writing, Netspeak', action, and visual images, employed in the processes of 'structuring' (c.f. Appendix 4). The final category investigated interpersonal, or interactive, meaning such as social distance, attitude, online persona and perspectives.(c.f. Appendix, 3).

4.4 Problems encountered

While operating in the technologically mediated environment of SP, several problems were encountered. The most common was the frequent crashing of the SL Client, requiring it to be restarted, to re-log in to SP, or even to reboot the computer, due to a lack of response. It was evident in the chatlog that other participants experienced this problem. Similarly, a delay in SL Client- lag (c.f Appendix 1) was another problem, causing a lack of response to the pressing of keys, and therefore nothing would move, including the avatar. At other times the avatar would not stop moving. Sometimes chat took a long time to appear in the main chat window, after typing had finished and the Enter/Return key had been pressed.

Additionally, video rendering problems occurred using Camtasia Studio. After participating in a History session, rendering the project took more than two hours, and later an error message was generated saying 'Camtasia has encountered a problem' and the video was lost.

4.5 The Multimodal Analytical Framework

In order to analyse multimodal accomplishment of structuring, this study draws upon a social semiotic approach to multimodality (Kress and Van Leeuwen, 1996; 2001) which was founded on the work of Halliday's social semiotic theory of communication (Halliday 1978). The social semiotic approach to multimodality 'extends Halliday's theory of meaning beyond language, 'to understand meaning as realised in a range of modes', Emphasising not only the way diverse semiotic modes (e.g. Netspeak, visual image, emoticons) 'are combined, and designed to make meaning' (Jewitt, 2006:3), but also stressing how choices

from each semiotic resource simultaneously fulfil Halliday's ideational (e.g., relating experiences and providing information), interpersonal (e.g, maintaining social roles and relationship), and textual (e.g., using language and other semiotic resources) metafunctions. However, Kress and van Leeuwen (1996) adopted from SFL the idea of metafunctions to analyse meanings in 'images' using slightly different terminology: representational, interactive, and compositional which correlate with Halliday's ideational, interpersonal, and textual metafunctions respectively. As such, this approach provides a means of understanding, and analysing, the ways in which the different semiotic choices integrate and combine to make meaning (O'Halloran, 2007).

4.5.1 Types of meaning functions in multimodal interaction

a. Ideational/Representational meaning: The representational meaning refers to the ability of the semiotic system to represent, and communicate, our experience and understanding of the world (Machin, 2007; Halliday, 1978). It is concerned with the nature of social activity, its goal, the objects and participants involved, and the circumstances in which they occur. Therefore, the processes of learning-teaching encounters in SP can also be analysed in terms of participants or characters' nature of activities, and the setting, or circumstances, in which they occur. As participants, activities and the SP setting have already been discussed in earlier in this chapter, this ideational meaning component will not be analysed further.

b. Interpersonal/Interactive meaning: This meaning deals with the nature of relationships among speakers/listeners, writers/readers, images/viewers (Unsworth, 2007:332) in social

practice (or in any form of interaction) (LeVine and Scollon, 2004:155), and is concerned with participants' attitudes towards what is being represented (Machin, 2007: 92). According to Kress and van Leeuwen, this meaning consists of three components: (a). (eye) contact between represented participant (RP) in image and viewer (e.g. if RP is looking directly at the viewer, it demands viewer's engagement with RP); (b). social distance (e.g. the degree of physical closeness or distance between participants: personal or close, social or medium, impersonal or distant); and (c). Perspective/point of view (e.g., whether RPs in images are filmed from a vertical angle, which expresses power, or horizontal angle which denotes involvement between RPs and the viewer) (c.f. Appendix 1).

c. Textual/Compositional: This is concerned with the way semiotic resources are composed and organised in a multimodal text. It relates to the layout and composition of text in terms of information value (the meaningful positioning of content in (semantic) space such as left-right, up-down, and foreground-background); framing (the way elements of a composition are connected, or separated from each other by such things as space, boundary lines, repetition of size and colour); and salience (the way some elements of the composition are given semiotic prominence, or made to 'stand out', in order to emphasise them by using different colour, shapes/sizes and fonts) (c.f. Appendix 1).

CHAPTER FIVE: ANALYSING AND INTERPRETING THE DATA

The first section of this chapter presents strategies employed by experts to 'structure' activities, and novices' participation, while undertaking the problem solving tasks, of building an Aqueduct, and a model of Stonehenge. The second section deals with the way in which 'structuring' was accomplished multimodally, focusing on contextual use of various modes during the pedagogic process. The third section will concentrate on interpersonal/interactive meaning during the structuring process, with a particular focus on, attitude, social distance, online identity, and perspective. The last section provides some reflections on virtual ethnography.

The categories/extracts discussed here are illustrative, and have been selected as examples of points, representing general patterns in the data, or, as contrast cases.

5.1 Process of GP: Structuring situations and novices' participation

As already discussed in chapter two, scholars (Rogoff, 1990; Rogoff et al, 1993) suggest that in the process of GP, teachers/experts structure learner/novice participation and learning situations, by selectively arranging activities and materials depending on the learners' skills and knowledge, providing instruction, explanation and demonstration, and by simplifying the task by dividing it into sub-tasks, to facilitate the novice efforts towards successful problem-solving. Novices also actively participate by showing their preferences, asking questions, and seeking help and clarification.

Table 5.1 Summary of key structuring strategies detected

Sessions		Aqueduct (n= 3 sessions)	Stonehenge (n= 3 sessions)	Total	%
SN	Strategies	Frequency of occurrence	Frequency of occurrence		
1	Explicit/direct instruction	18	17	35	16.67
2	Novices question/seek assistance/clarification	19	27	46	21.90
3	Encouragement/confirmation using typed-writing/emoticons	13	16	29	13.80
4	Expert questions/ checks novice understanding	12	15	27	12.86
5	Expert seeks novice opinion	6	7	13	6.20
6	Novice shows preferences	6	7	13	6.20
7	Subdividing/simplifying task	5	5	11	5.24
8	Demonstration	4	5	10	4.76
9	Expert selects activities	4	4	8	3.80
10	Explanation	4	3	7	3.33
11	Reminder about the goal /directing attention to the task	3	3	6	2.86
12	Collaboration/ shared endeavours	3	4	5	2.38
	Total	97	113	210	100%

The investigation reveals that the experts structured novice participation in the activity mostly by providing explicit instructions (16.67%), encouraging and praising the novices' in activity using typed-writing and/or emoticons (13.80%), and frequently monitoring activity and checking their understanding (12.86 %). Similarly, it was found that novices engaged actively in the building tasks, asking for help and support, and seeking clarification (21.90%); expressed their preferences over the tasks (6.20%); and engaged in collaboration/shared endeavours (2.38%). Furthermore, the experts also provided explanation (3.33%) and demonstration (4.76%); however, due to technological constraints in SP, novices could only see the final product (e.g., an object created) but not the process of demonstration.

Therefore, the dominant scaffolding and structuring strategy used by experts was direct-instruction, which helped novices extend their skills and knowledge to a higher level of competence, enabling them to take increased responsibility for handling the task, or part of it, on their own. The process of the joint accomplishment of structuring was further facilitated by the novices who were actively engaged in the task by implementing instruction, asking for help and support, seeking clarification, expressing their preferences, and watching and observing the demonstration provided by the experts.

What follows next is exploration of those strategies that were the most/least frequently occurring or those that need some reconsideration when used in a mediated environment.

5.2 Considerations on some structuring strategies

5.2.1 Choosing activities and negotiating participation

It was noted that more competent users, or experts, structured novice involvement in learning-teaching encounters by selecting, and arranging, tasks and materials. However, experts provided opportunities for novices to express their preferences over selected construction tasks. As shown in the figure 5.1, which is taken from the first Aqueduct building session, the expert (Kim), first determined possible 'building' tasks, i.e. Roman architecture, such as Coliseum, Aqueduct, Porta Nigra, and Pantheon, which were displayed on the media board (Figure 5.1) in order to allow participants to discuss and cast their vote according to their preferences (see Extract 1).

Figure 5.1: Choices of construction tasks



Extract: 1

Session: Archaeology (Aqueduct)	
Time:11:27 -11:34 SLT (Second Life Time, c.f. Appendix 1)	
Participants: Kim,Max,Alan,Paul,Toby,Yati,Kitty	
SN	Transcribe interaction / Chat logs
101.	Kim: Ok who votes for aqueduct let me do a count
102.	Kim: Anyone?:p
103.	Max: me
104.	Kitty: me
105.	Kim: Toby you vote aqueduct?
106.	Kim: ok so Yati/Alan/Paul what do you vote for again sorry?
107.	Paul coliseum gets my votes
108.	Yati : i said coliseum but i quite like Aqueduct as well
109.	Toby: say aqueduct...
110.	Alan: Aqueduct will be easier# ...
111.	Kim: the coliseum would look very good but we do have only 3 week to build it
112.	Kim: right so is all in agreement with aqueduct
113.	Alan: Yep
114.	Yati: yes

This enabled experts and novices to engage on the same task, i.e. building an Aqueduct. The fact that most of the participants voted for Aqueduct, as it would be easier (line 110), with limited time available for building (line 111), the expert (Kim), makes a decision to build an

Aqueduct. In the Stonehenge session, however, choices were not given, and the project was solely determined by the expert (Max) after prior discussion in the Schome forum.

5.2.2 Subdividing/simplifying the task

The experts structured and scaffolded novices' learning efforts by subdividing or simplifying the pedagogic task. Firstly, the expert simplified the task by subdividing the building sessions into different successive sessions. Secondly, the expert subdivided the task during the ongoing activity. For example, in the first Aqueduct session, Kitty has never built before, Paul, instructs *'right click on an empty piece of land, and choose 'create''*. Kitty tries and creates a prim, *'Wow I've done that'* Kitty experiments with that option and then, when competent, Paul instructs on using the 'hollow' option to enable the building of arches. Paul, *'Now the advanced stuff ☺ have a go with the option on the bottom right...experiment'* *'Try the hollow option ☺'*. Kitty succeeded in creating a hollow in her prim, and went on to make an arch. Paul *'Next textures...'* Each of these subdivisions of the overall task enabled this novice to eventually participate fully in the building of Aqueduct in SP it is not possible for experts to structure by 'handling difficult aspects of the task', as in the process of GP in a real-life setting which is done by physical manipulation.

5.2.3 Novices question/seek assistance/clarification

It was observed that novices requested information, instruction and assistance directly whenever they needed help. However, when they indicated difficulty, or became passive, the expert offered help. For example, when Yati was passive when he was puzzled as to how to build, Kim offered him help, and when Kitty asked *'may i have some help plz'* in Aqueduct, or *'y did your [prim] go red??'* in Stonehenge. Similarly, in Stonehenge, Kitty asks

for clarification when Max suggests to the novices, 'If you all rez a prim each', then asks 'All got one?'. Kitty asks 'A box??', and Max confirms 'Yup a plain box'. In this way novices actively participate in the structuring process.

5.2.4 Direct instruction

Despite the affordances of SL Client to support voice, due technological constraints (e.g., internet speed, sound cards, lag), no evidence of the use of the speech/voice, for supporting pedagogical processes, was detected in this investigation. Unlike in the process of GP in face-to-face settings, novices could not benefit from active observation, or watching demonstrations in SP, therefore, typed-instruction and Netspeak was used as the predominant strategy of giving step-by-step instruction. For example, as can be seen in extract 2, taken from the Aqueduct building session, realising that Novices (Kitty, and Yati) could not handle the building task as they had 'no knowledge of building', and that they could not benefit from observing experts' work, the expert Paul, applied the 'contingent-shift' rule, whereby step-by-step instruction was provided to the novices regarding 'creating an object' (line 115, 130), and 'camera control' (Line 121) for examining objects from multiple perspectives.

Extract 2

Session: Archaeology (Aqueduct)	
Time:11:37 -11:52 am PDT	
Participants: Kim, Max, Alan, Paul , Toby ,Yati,Kitty	
SN	Transcribe interaction / Chat logs
115.	Paul: ok, right click on the open ground and choose 'create'
116.	Kitty: Paul vmay have some help??
117.	Kitty :ok
118.	Paul: sure :) ...
119.	Paul: u should have a new window open

120.	Paul: choose the types of shape you want to make, ignoring the last 3 for the moment ..
121.	Paul: basic camera controls, hold “Alt” and move the mouse around...
122.	Kitty: ok thanks
123.	Paul: ... but for the moment we want all those extra control :) ...
124.	Paul: ok you got all that so far??...
125.	Paul: ok on the edit window click rotate ...
126.	Paul: now advanced stuff:) have a go with the option on the bottom right... experiment :))
127.	Kitty: ok
128.	Paul: try the hollow option:)
129.	Paul; next; textures, let me catch up with yati while you experiment
130.	Paul: ok ,yati, right click an empty piece of land and choose ‘create’...
131.	Paul: a new window should open
132.	Paul: choose the shape you want to create(ignore the last 3 on the bottom row)
133.	Paul: then left click on the floor where you want it
134.	Paul: excellent:)

Providing explicit instructions, and at the same time applying ‘contingent-shift’ rules, or adjusting their level of support, as the novices make progress, the expert ‘structured’ novice activities. For example, after seeing that Kitty was making progress, he provided opportunities for her (line 126) to ‘have a go... and experiment... try the ‘hollow’ option ☺’(this makes holes in objects), thereby transferring responsibility to Kitty for handling the task, and encouraging her with the use of smiley face emoticons (i.e., ☺). The expert not only structured the novice’s participation, but also provided ‘emotional scaffolding’ (Rosiek, 2003,) by the use of many emoticons indicating praise and encouragement.

5.2.5. Explanation and demonstration

The investigation reveals that the process of structuring, in SP, involved demonstration (4.76%) and explanation (3.33%) in the context of an ongoing activity. Literature suggests that novices’ development of skills and knowledge also occurs with the aid of explanation,

and demonstration (Rogoff et al, 1993). However, owing to technological constraints, instructional processes in SP by experts, did not involve much demonstration, and even those activities demonstrated did not facilitate the learning process as participants were not able to 'watch' and 'see' the process, but only the product of it.

In a Stonehenge session, the expert (Max) requests participants (Kitty, Yati, Alisa), to 'rez' a 'prim' (i.e., an object, c.f. Appendix 1) each, and the participants managed to do so. In order to be able to construct different shapes of Stonehenge, participants were *required* to know how to 'taper' a prim. As participants indicated their lack of skills and knowledge on 'tapering', the expert first, explains the effect of 'tapering': it 'brings the sides of a prim close together', Extract 3 (line 138, 139). Later, the expert increased the level of support by asking participants to 'watch' (line 140) his demonstration (where the expert first changes prim's colour to red, and later tapers the prim, (Figure 5.2 below), and also enquires whether they could 'see' the demonstration (line 134). By using general markers such as 'watch', 'see' and 'look' the expert directs novices' attention to the process (Rogoff et al, 1993:46). Nevertheless, one of the novices reported that he is 'lost' (line 141), and another novice started laughing (line 144) as they could not 'see' or follow the expert's demonstration:

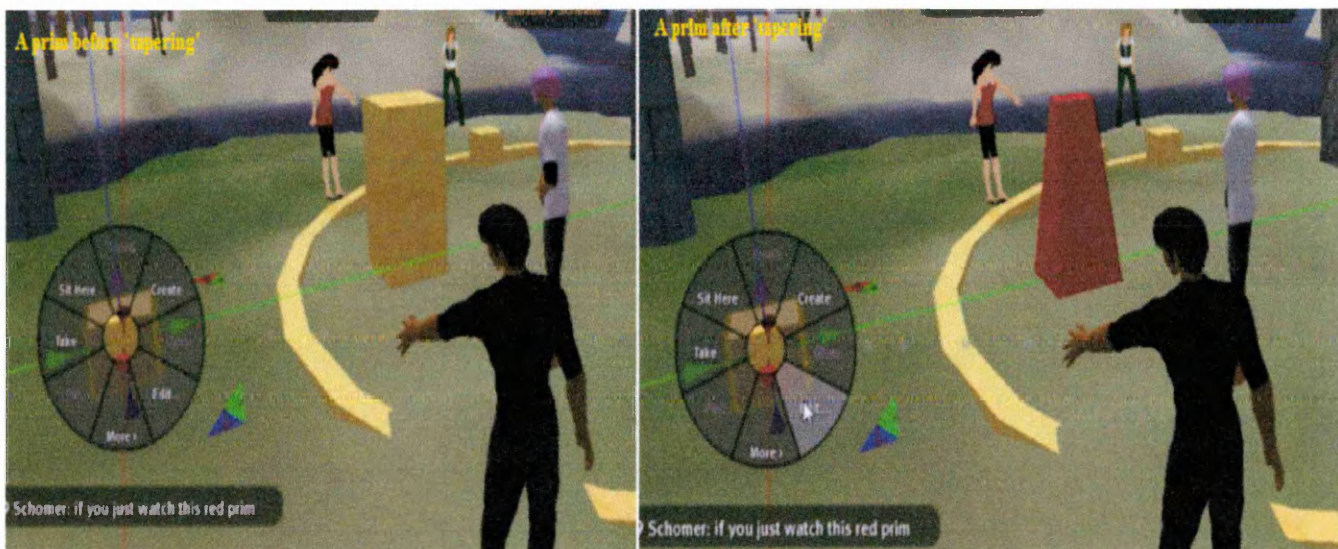
Extract 3

Session: Archeology (Stonehenge)	
Time:11:37 -11:43 PDT	
Participants: Kim, Max Alan, Paul , Toby ,Yati,Kitty	
SN	Transcribe interaction / Chat logs
135.	Max: Ok, do you all know how to Taper prims?
136.	Yati: no
137.	Kitty: nope

138.	Max : Right, by Tapering a prim
139.	Max : you bring the sides in close together at the top
140.	Max: if you just watch this red prim
141.	yati: sorry i m lost
142.	Kitty: me 2
143.	Max: Do you see how I've brought the top in as if squeezing it?
144.	Kitty: lol
145.	Max: ok lol
146.	Max: Sorry not very good at explaining things online

In the Figures below, we can see Yati in the foreground trying to modify an object, interacting with a circular menu, Alisha and Kitty at the far end, and the expert in the marked circle demonstrating the process of changing a prim's colour.

Figure 5.2 Demonstration: Tapering a prim



As seen in the images above, participants would only see a prim turned red (right), but not the process of how the expert actually changed its colour.

According to Rogoff (2003), as discussed in chapter two, in intent participation a novice becomes a skilled user by keenly observing the actions of experts or more capable peers,

such as by simply watching and attending the demonstrations. By contrast, in the mediated environment of SP, the idea of gaining knowledge through intent participation appeared to be incompatible.

As a novice but a self-determined learner, one strategy adopted by myself, and also reported by Kitty, was to step out of the environment and find videos related to virtual artefacts building on a video sharing website such as YouTube. (Interestingly, there are significant numbers of videos about building.) While watching such videos, the viewer can follow mouse clicks, and can exactly 'see' the processes of object construction, by 'watching' how the task has been accomplished, following the cursor, and pop-up menu, since the person who created the video can capture his onscreen activities. Additionally, novices can browse the internet for additional help and support, or explore, and experiment, with various building options. Most significantly, in order for the learners to initiate such activity, intrinsic motivation and 'self-determination', and the feeling that they are pursuing something for their own reasons, is required. Therefore, in order to adopt the notion of intent participation in a virtual world like SP, the emphasis should be placed more on learners' intrinsic motivation, and self-determination to learn, rather than simply stressing the process of learning that occurs through 'listening-in' and 'keen observation of' experts' actions.

Even though the affordances of SL Client makes it possible to import and play video, or other media files, in-world, no evidence was found of the use of such features in SP.

However, as already noted, technological constraints should not be forgotten. They are a huge challenge for educators involved in pedagogical practices in SP.

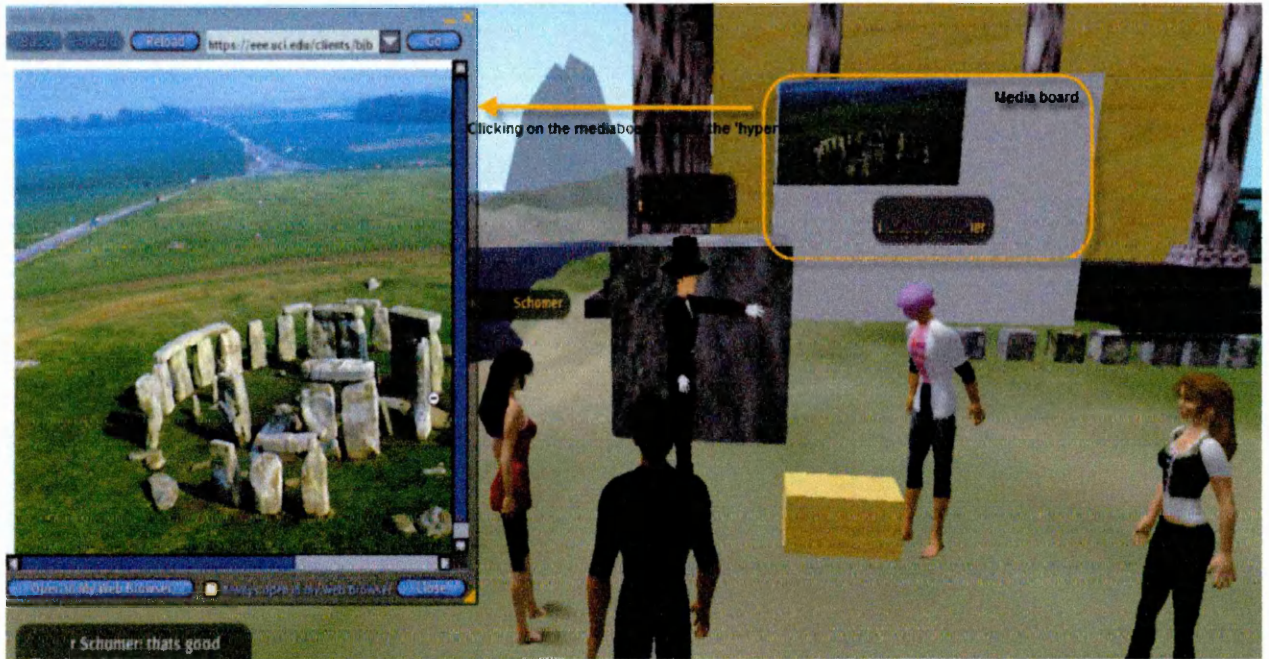
5.3 Multimodal accomplishment of 'structuring'

The study has identified the orchestration of various modes, particularly, typed-writing and Netspeak, use of images, and actions, in the processes of *structuring*. Appendix 7 provides a brief illustration of how these modes were used in the processes of 'structuring'. Different modes were foreground at different times, nevertheless, typed-writing and Netspeak appeared to be the most dominant semiotic modes used by the experts and novices for interaction, to negotiate the task, provide instruction, question and answer, for guidance and support, encouragement and so on. Surprisingly, no use of voice/speech for pedagogic purpose was evident, apart from the fact that one of the participants (Toby) tried to sing at the beginning of the first Stonehenge session. However, not all participants could hear him, even though instruction was provided to enable voice. For effective voice interaction, SL Client requires a computer with a suitable sound card, and high speed internet, or participants may experience distortion of sound, or hear an intermittent crackling, or crackly voice. Due to such technological constraints and the fact that use of voice can cause lag, participants relied on text chat for learning and teaching, rather than speech.

The affordance of SL Client, however, facilitated the process of 'structuring', by enabling the display of visual images, and web pages, on the media board, which provided the context and starting point for both Aqueduct and Stonehenge sessions. It also formed the basis on which other modes were developed (Kress et al, 2001). For example, clicking on the

hyperlink (e.g., electronic reference/link from one point in a text, image or document to another on the web) on the media board, in the Stonehenge construction session, enabled participants to view the picture of Stonehenge (see Figure, 5.3), which the group intended to build.

Figure 5.3 : Visual display of Stonehenge

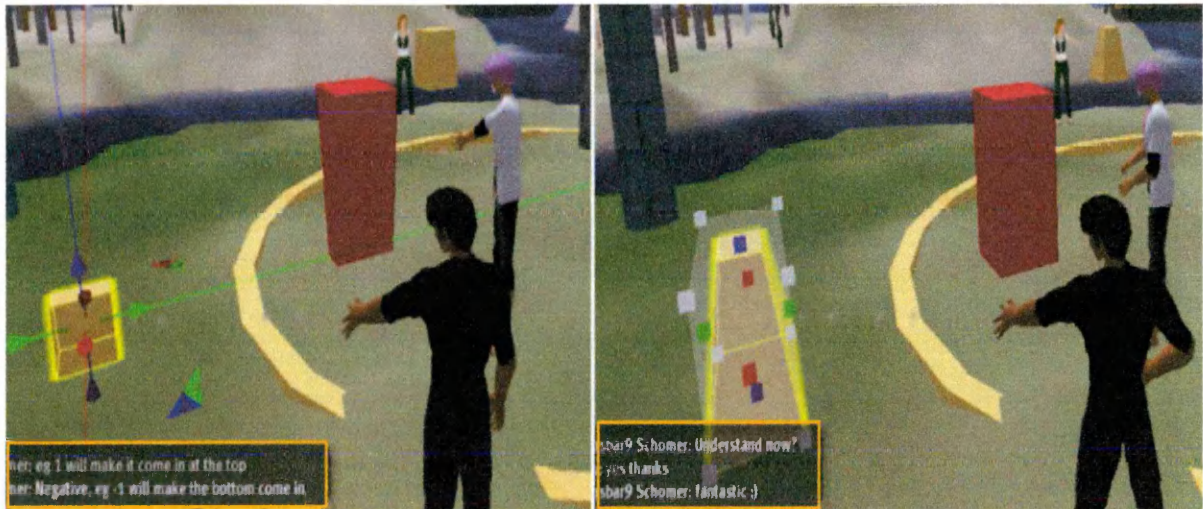


The SL browser also afforded the reading of web contents in-world, such as information about Stonehenge, from Wikipedia, which added another dimension to meaning-making, that is, 'hypermodality' (Lemke, 2002): how images, text, sound, mouse clicks (touch) interact together to make meaning.

Furthermore, experts' and novices' actions and movement were interwoven with typed-writing, Netspeak and actions. For example in, the Stonehenge session, visual mode was foregrounded at the beginning of the session but the expert's typed-instruction, Netspeak

and actions dominated the later parts of the session. The following images illustrate the way in which typed-writing, Netspeak, and actions were used simultaneously.

Figure 5.4: Demonstration: effect of positive and negative tapering



As can be seen in the above pictures, taken from Stonehenge session, the expert, seen in the centre of the marked circle, explained the effect of 'tapering' to novices: '*-1 will make the bottom come in*'. As well as giving instruction and explanation, the expert created a 'red' prim (left) to demonstrate the effect of negative tapering. While following, and implementing, the instructions, novices (Yati in the foreground, and Kitty in the background) interacted with 'interactive arrows' and objects by clicking on several options, and created, and modified, prims, moved around the object, to observe it from different perspectives, and sought help and clarification using chat. Similarly, the expert checked novices understanding (right) using typed-writing: 'understand now?', and expressed happiness using Netspeak: 'fantastic :)' when novices understood.

Finally, even though research suggests that emotional, and nonverbal, means of communication, such as gestures, gaze, and smiles, play a significant role in the process of GP, use of these semiotic modes were very minimal. Only three examples of gesture use were identified. The first was in the first Aqueduct session, when Max waved to attract attention, second was the use of the 'yes' gesture, which makes the avatar nod his/her head, to agree with the choice of Aqueduct as a construction task, and a 'pointing gesture' was used once in the Stonehenge session by an expert (Max) to attract the attention of another expert (Toby) (see Appendix 7, Time - 11:36 SLT: SL Time, cf. Appendix 1). It is interesting to note that novices did not make use of any gestures, suggesting that they are still not accustomed to using them.

5.4 Structuring and Interpersonal meaning

5.4.1 Use of emoticons to express emotions and attitudes

Emoticons are a significant feature of Netspeak and contribute to affective aspects of interpersonal meaning. Emoticons serve as a means to express participants' attitudes towards a situation, topic of interaction, what people have said, and so on. For example, they are often used to convey particular emotions or attitudes like 'happiness' or 'pleasure'☺, 'sadness' or 'disapproval'☹. During learning-teaching encounters in SP, participants employed various emoticons to indicate their affective disposition, or to express their positive, or negative, orientation towards a certain state of affairs. Appendix 8, summarizes the most commonly used forms of emoticons in SP.

The evidence suggests that participants most frequently employed emoticons to express humour, or give emphasis to humorous comments (28.7%), for teasing and sarcasm (18.93%), and happiness or pleasure (12.43%). The uses of emoticons for expressing sadness or negative feelings were found to be minimal, suggesting that participants had a positive attitude to the environment and activity in SP. However, one participant (Alton), who wanted to sing and use voice but was experiencing a technical problem used a 'very sad' emoticon to indicate his frustration: 'i want to listen to music and use voice :(('. Meanings conveyed by emoticons, however, varied, depending on the context of use. For example, a smiley face was used most of the time to express humour, sometimes to encourage and praise novices, and also to express apology (see Appendix 8, and 9). What emerges from the video, and chat logs, is that the expert in the Stonehenge session comes across as a friendly, helpful person by his use of many emoticons used for praise, encouragement and humour; to express positive feelings, motivate, and to support learning.

Apart from expressing attitudes, use of emoticons can also denote degrees of intimacy/informality between participants. For example, the experts Max and Toby have made more use of 'p' than any other participants in Aqueduct sessions. The excessive use/exchange of: P (23.96%), which was employed to express teasing/ ironic remarks, or humour and joking (Appendix 8), shows familiarity, and informality between participants. What can be seen from the chat log is that, the use of emoticons was frequent, and varied, while interacting with friends or acquaintances. However, in the interaction between experts and novices mostly smiley faces were used by the expert showing a positive attitude to the novices efforts.

Furthermore, attitude was also expressed by using paralanguage, such as 'LoL' for humour, and use of capitalisation denoting 'shouting' or emphasis. Participants also made use of exaggerated use of punctuation marks (e.g., Kitty typed '!!!!!!' showing disapproval when given a choice of songs by Toby), to stress their opinions and views.

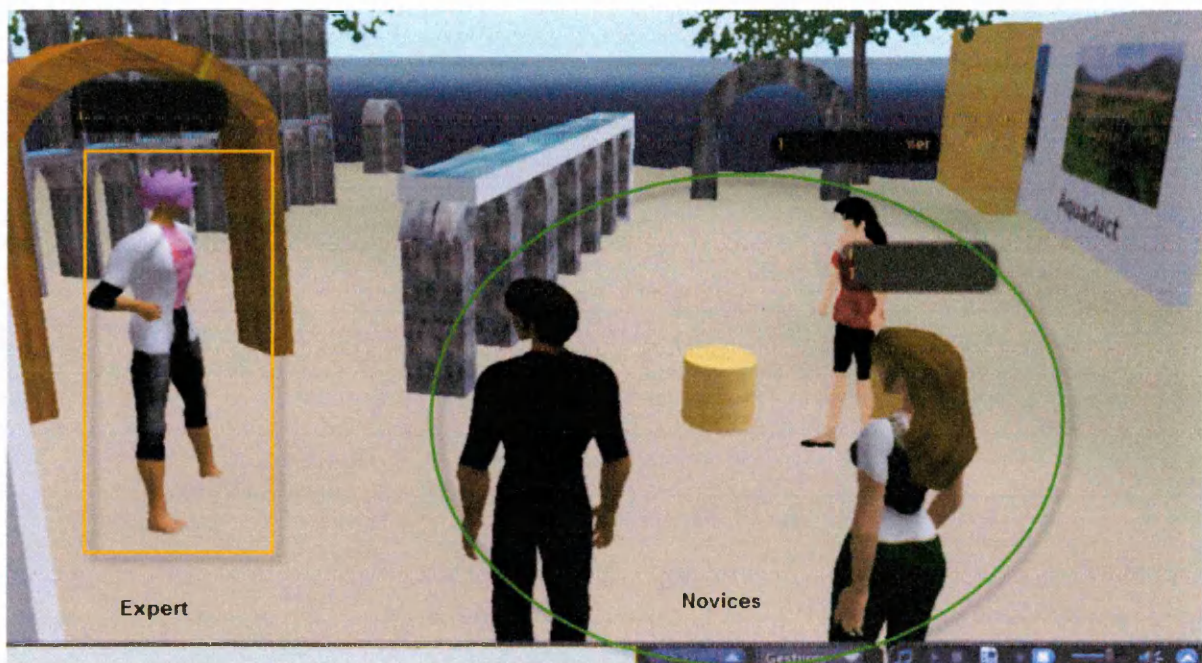
5.4.2 Social Distance

As already noted, social distance refers to the physical proximity which people maintain during conversation, or activities. Hall (1966) identified four physical social distance zones: *Intimate* (<0.6 m), *personal* (0.6 to 1.5 m), *social* (1.5 to 3 m), and *public* (>3 m). Whereas in an image, Kress and van Leeuwen (1996:148) suggest that social distance between pictured, or represented, participants, and the viewer or reader, is realised by size of the object in the image or *size of shots: intimate/personal* (close-up shot), *social* (medium shot), and *impersonal* (long or very long shot). It is important to note, however, that in SP, it was not possible to measure the actual distance maintained by Avatars as suggested by Hall. Obviously, it is also impossible to identify the actual use of space from the captured videos. Furthermore, social distance in SP cannot be determined by the size of the frame, or shot sizes as proposed by Kress and van Leeuwen. Therefore, the main coding categories discussed in this study were conceptually defined as follows: *personal or close* (close enough to touch), *social or medium distance* (beyond 'arms length' but within a talking distance), *impersonal or far distance* (shouting distance to the range of non-involvement). The analysis was based on my perception of close or distant use of space, by Avatars while interacting.

It was found that interpersonal distance is shaped by a nexus of factors such as status of participants, gender and familiarity, and physical setting or spatial arrangement for the activities. Some patterns, which have been evident in this study, are discussed below, however, they should not be treated as mutually exclusive categories, as there is some overlapping.

5.4.1.1 Status of Participants and interactivity: It was observed that participants of equal status maintained a *personal* social distance to each other. For example, as can be seen in Figure 5, novices most of the time showed closer physical proximity to each other than to the expert, but generally experts were at medium or at impersonal distance from each other, as they were usually instructing novices, or working alone.

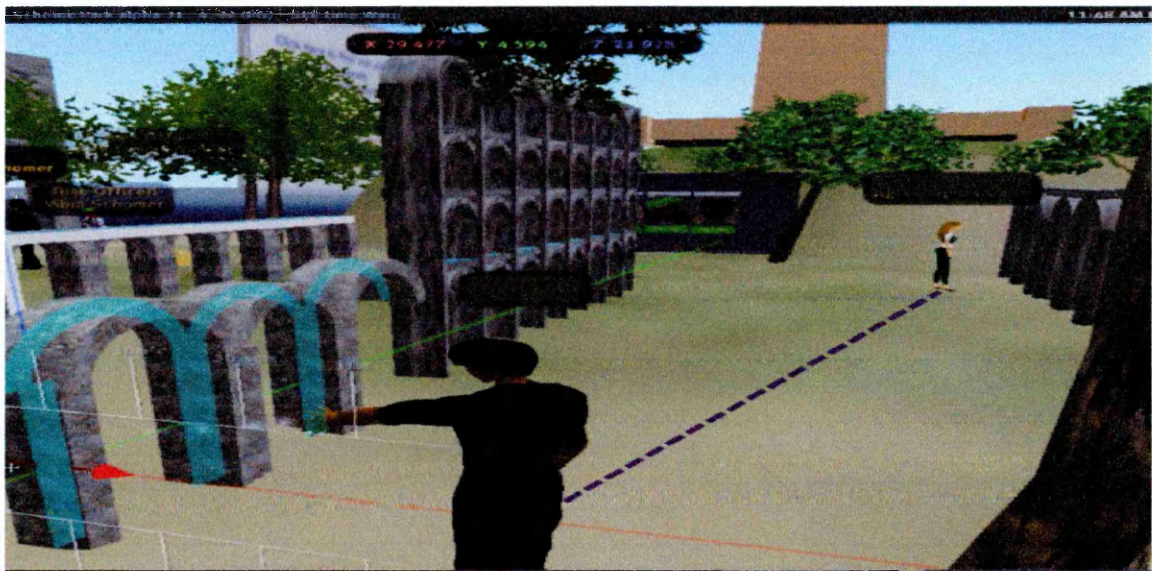
Figure 5.5: Social Distance between expert and novices



5.4.1.2 Working Independently: When working independently, and following, and implementing the expert's instruction, but not directly talking to each other, novices kept up

either a *medium*, or *impersonal* distance between each other depending on the space available to build in, and space required to move around the 'prim'. (It is often the case in this 3-D environment, that from one perspective, prims seem to be well aligned, but from another they can be seen as completely disconnected.) For example, in Figure 5.6 below, the novices are far apart, at an impersonal distance, due to the need for a large space in which to construct the arches.

Figure 5.6: Impersonal Social Distance



5.4.1.3 Gender and Familiarities: It has also been found that some female participants tend to maintain a close *personal distance* between each other, but stayed further away from male participants, thereby maintaining a *medium* social distance from them. As can be seen in figure (5.), taken from an Aqueduct session, two females novices (Kitty and Alisha) kept very close physical proximity between them, while interacting, but maintained greater social distance from the male participant (Rambo), who was a stranger (he attended the Aqueduct session only once). Previous research has demonstrated that social distance

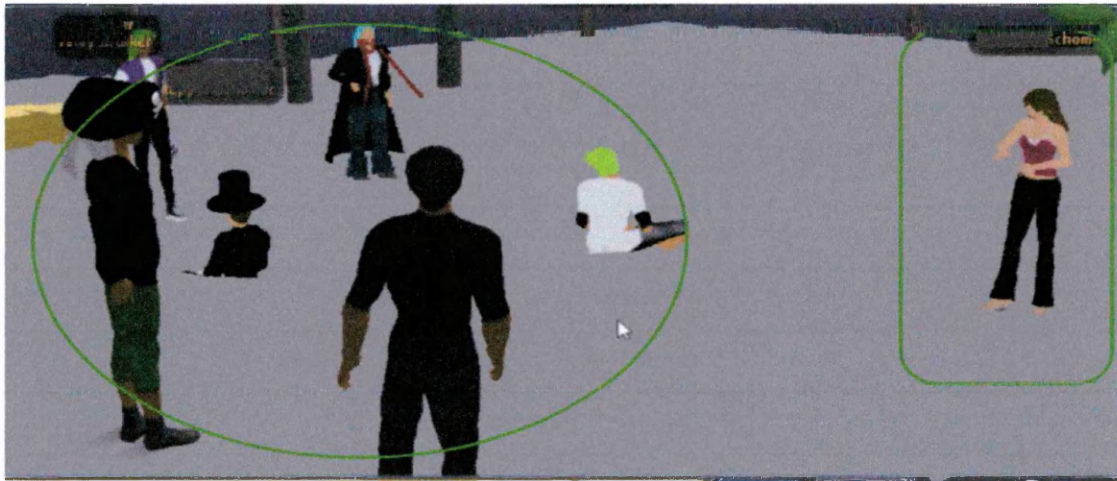
among participants 'signify different degrees of formality and intimacy' and 'when people are at a distance from one another it positions them as strangers' (Jewitt, 2006:44).

Figure 5.7: Close social distance between acquaintances and medium from a stranger



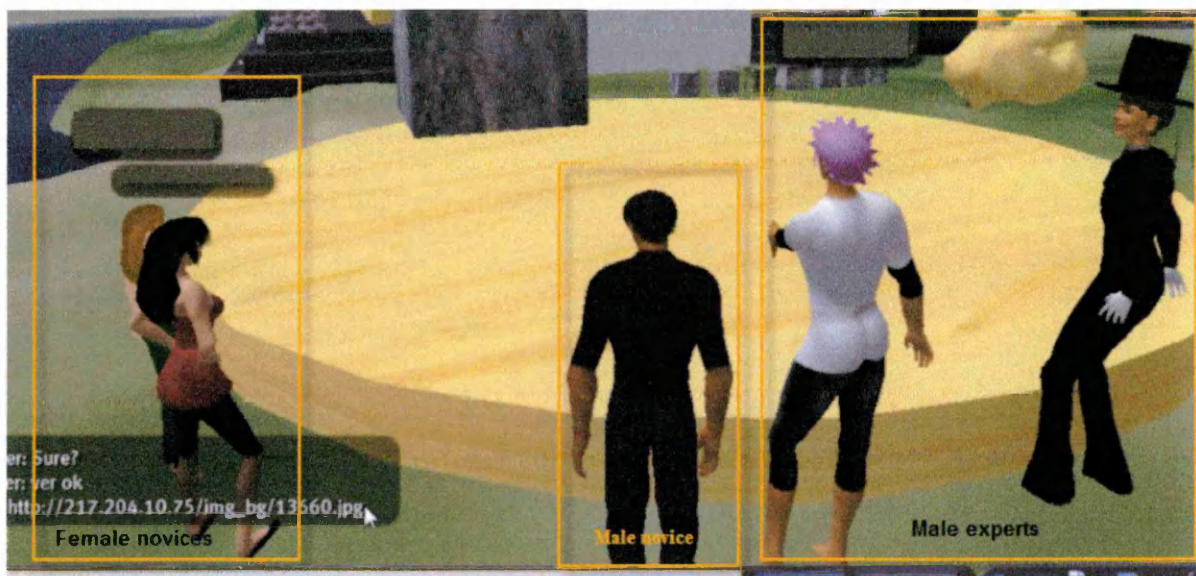
Additionally, looking at Figure (5.7) below, male participants are almost in a circle showing a *medium* degree of social distance, however, Kitty (far right), although still at a medium distance, is apart from the male participants. It is true that she is relatively new to the setting, but not quite a 'stranger' as she has already visited SP, and is familiar with the participants. Most significantly, she is the only female participant among the group.

Figure 5.8: Social Distance: Group of males vs. single female



Furthermore, it was also found that the male novice seemed to keep closer to male experts, than the female novices. Female novices behaved more sensitively to interpersonal distance with experts, than the male novice (Figure 5.9)

Figure 5.9: Social distance male novice vs. male expert



5.4.1.4 Spatial arrangement/space available: The degree of social distance varied, depending on whether the interaction or activity is held in an interior space , or an exterior

space such as the 'sandbox'. For example, participants exhibited a range of social distance, along the continuum of *close to impersonal* distance, while participating in activities conducted in open space, whereas the interpersonal distance was *close to medium* in activities, or events, conducted inside. It could be attributed to seating arrangements which were fixed, as in figure (5.9).

Figure 5.9: Social distance indoor



5.4.1.5 Disinterest in activity: One particular Avatar was noticeable for the impersonal distance he kept from other participants, the majority of the time, both in Stonehenge and Aquaduct sessions. As a less dominant expert, he showed disinterest, when the main expert was interacting with the novices, and even showed that he felt excluded from the activity, even though he didn't contribute. He teleported away, and went offscreen, frequently.

5.4.3 Online Personas and identities

In SP users can choose a unique user name, and can create an online appearance with customizable clothing, hair and accessories. Body size, height, and eye colour, can be chosen

and changed at will. Some participants attached fancy fairy wings to their avatars, others attached long flexible tails, and some chose hairstyles in a different colour, one participant chose a pirate outfit, and another had a dragon attached (See Figure 5. 10). It seemed that some participants were intrigued by the virtual 3D world, and were giving full rein to their creativity, with unique and imaginative identities. It is important to note, that not all participants were able to upload free, user created, accessories, found in the main SL grid to SP, as SPP controls what can be uploaded, and by whom. Novices did not have these rights, and therefore, they relied on SL client's 'appearance' editing functions, which still includes many possibilities, for choosing their Avatars' appearance.

Figure 5.10: Online Personas



Such affordances of SL Client enabled participants to create a range of identities which can affect their persona, though without knowledge of the real people behind the avatars, it is not possible to gauge how much their characteristics are reflected, exaggerated, altered by, or similar to, their online identities. Nonetheless, the reason why they choose a particular identity is important because 'who we choose to be in turn shapes how we behave' (Yee and Bailenson, 2007), and also when people create new personas, they are often chosen because of offline interests and experiences (Valentine, 2001:56). For example, Max (an

expert) who dresses very colourfully, frequently uses 'smiley' emoticons, while interacting, when providing guidance, support and encouragement to novices, suggesting maybe that he is a sociable person in real life, whereas Toby, another more knowledgeable participant, who dresses totally in black, interacts little with novices, easily takes offence, and frequently leaves the group, suggests that his real characteristics are quite different to Max. Further research on the relationship between online personas and offline characteristics, could make an interesting study.

5.4.4 Perspective

As discussed in the previous chapter, perspective or camera angle can denote a different relationship between the viewer and RPs in image. *High-angle views* denote the viewers' power over RPs, whereas a *horizontal angle* (i.e. frontal angle) denotes viewer involvement, and detachment or a sense of distance from the RPs is denoted by an *oblique angle*. It appears that the above ideas of perspective proposed by Kress and Van Leeuwen seem inapplicable in analysing perspective, based on camera angles, in SP, as in SP, each Avatar serves as an individual camera perspective on the 3D environment. Each participant can choose their own angle or perspective on the scene, and cannot see others' perspectives, nor deduce any meaning from them. Participants can view the 3D environment from either a *first-person perspective* ('mouselook' or zoom mode : through the eyes of their Avatar), which makes the Avatar invisible on screen, using it to zoom in/out, to focus on people, or things. Additionally, SL Client affords viewing the world from a *third-person perspective* (default mode) which allows the participant to see his/her avatar within the grid.

Participants can move around, or rotate the camera, move their Avatar forward and backward, side to side, and also 'fly' and watch from above.

In SP, a top-down perspective, (i.e. an Avatar that is looking down), cannot be attributed to the viewer's power over other Avatars in the grid. Instead, it can be considered as denoting *detachment*, in the sense that the viewer is not *engaged* in the activity of the group, but is just 'flying' over the grid. Additionally, since any Avatars can fly at will such action cannot be associated with power and status. There are also issues such as whether the researcher is watching the world from the back, or through the eyes of the avatar, and indeed where actual power resides.

In SP, associating a 'power' relation between participants in terms of camera angles is problematic, therefore, such association should be considered in terms of the *status and roles* of participants in the social activity, rather than the vertical or horizontal 'field of view'. In other words, 'power' association between participants should be considered in terms of the *knowledge and expertise* they bring with them while engaging in a culturally valued activity, and in terms of their *roles* in such an activity. For example, in SP, the experts or more knowledgeable others, possessed higher status in that they were responsible for scaffolding novices' knowledge, and structuring novices' participation in activities. Similarly, 'involvement' and 'detachment' should be considered in terms of whether the participants are moving around, flying, teleporting, or whether they are actively involved in social activities.

Having examined multimodal accomplishment of structuring, now I present some of my observations of virtual ethnography.

5.5 Conducting virtual ethnography: Reflections on personal experience of SP

According to Hine, Virtual ethnography refers to 'ethnography of, in and through the virtual' (Hine, 2000:65). Hine argues that it involves the adaptation of ethnography to virtual space, which is studied as a culture, and as cultural artefact, in its own right. This chapter is based on my personal field experience of SP.

5.5.1 Ethnography and the notion of the 'field' and 'field work'

While using ethnography in a virtual environment, some features of conventional ethnography need to be reconsidered. Conventional ethnography entails features such as physical travel to a place, physical co-presence, and face-to-face interaction with the social groups/tribes being studied, and a distinctive physical/geographical field boundary. However, such features are not applicable while conducting research in virtual worlds, or cyberspace. For example, firstly, in order to get access to SP, I did not have to physically travel to the field, my research site was a few mouse clicks away, and it was accessible 24-hours (apart from when the SL Client was down, or I had connection problems) from my desktop. Whenever I wanted to access the 'field', all I had to do was log on to SL Client using my username and password. In this sense, such ethnography is 'environment friendly' and of course cost effective, but learning to function effectively in such an environment could take a considerable amount of time. Although I did not have to physically travel to the field,

I had to negotiate access to SP, with SP Project, and provide enhanced CRB disclosure in order to gain entry to it.

Secondly, virtual ethnographers cannot always rely on physical boundaries in defining their research site, and while carrying out fieldwork in virtual space. Nevertheless, virtual space may have virtual boundaries. In the case of my research, for example, within SL, SP has an island with a limited area with clear virtual boundaries, and my graphical representation, my Avatar, shared this virtual space, and was physically involved in interaction with other Avatars/participants in real time. In other words, my Avatar represented me as a researcher, but I was physically separated from the field, and from those being researched, while I was at my desktop, taking part in the group's activities, video capturing those activities and taking notes. It is like 'being there' and 'not being there' at the same time. Unlike conventional ethnography, there was a 'disembodied' presence (i.e. lack of researcher's physical co-presence) in the field. I spent considerable time exploring SP, and I took field notes from my desktop. I did not meet the participants physically, and most of the participants have never met each other in a face-to-face setting. I do not know the participants' real identities, and they were treated as online personas. Interaction was synchronous, and there was face-to-face communication among avatars, although it lacked 'real world' face-to-face communication. I was travelling to the field, but without moving physically. When I 'go to the field' I simply 'log on' to SL Client, and when I 'return from the field' I 'log off', and frequently the virtual field (i.e. SP) froze, which never happens in a conventional ethnographic site? Therefore, 'ethnography in, and of, virtual spaces shifts fieldwork to the deskwork' (Wakeford et al, 2006:36).

5.5.2 Some Issues and Challenges

Conducting ethnography in a 3-D virtual environment, such as SP, poses several significant practical issues and challenges. Firstly, physical travel to the research site, and face-to-face interaction, which plays a significant role in the construction of ethnographic authority, are an intrinsic part of conventional ethnography (Hine, 2000). Unless the virtual ethnographer meets participants in an offline setting (which is not always feasible, due to the geographically dispersed population of the study), establishing authority, in the way conventional ethnographers do, is challenging. Even though most of the participants of this study (a few being from the US) were located within the UK, I could not meet them in person, as the SP Project discouraged the meeting of participants physically. The real identities of my research participants are not known, only than their online personas. However, in this unique cultural context, the virtual ethnographer's online experience should play an important part in maintaining ethnographic authority.

Secondly, one could argue that a study conducted without really knowing the participants, and their real identities, cannot be considered an ethnographic study. As virtual ethnography considers the internet both as culture, and cultural artefact, in on its own right (Hine, 2000, 2005), participants can have any identity; however, this is totally acceptable within the virtual setting, and interaction, and behaviour here, can be studied just as in the real world.

Thirdly, getting fully informed consent from participants, in virtual environments, can be problematic and during the preliminary phase of this study, I frequently visited SL Main Grid as a possible research site, but encountered this ethical dilemma. The first issue was to define whether SL Main Grid constitutes a private, or public, space. It was a public space in the sense that it is publicly accessible, and anyone having a SL registered user name can observe, and read, interactions that take place. At the same time, interactions that occur within that space may be perceived as private by the participants (Roberts et al, 2004:161). Therefore, the dilemma, and issue, was whether I should get informed consent while conducting research in such an environment, and if so, how it could be done. The fact that anyone could join in, logging on, and off, anytime they wish to do so (i.e. participants appear / disappear without notification), made it impossible to fully inform, or obtain consent from, them. This poses a big challenge for the virtual ethnographer. However, SP, being a closed space, and participants being fully informed that they were operating in an experimental situation, relieved me of the dilemma here.

Fourthly, during my first few days in Schome, I found it very difficult to follow what was going on in that environment, including catching up with the many interactions scrolling up on the main screen. It was particularly hard to move around, interact with other Avatars, participate in activities, record and take notes at the same time. However, since the sessions were video-recorded, it gave me an opportunity to revisit the data, and verify my observations and notes. After I got used to the environment, gradually built a rapport with participants during activities, and learnt Netspeak terms used in the community, things became much easier. This is not to deny that many conventional ethnographers also face

similar problems in learning the culture, language, and way of life of the 'tribe', while in the field.

Finally, interaction in a mediated environment such as SP depends on, and is shaped by, the affordances and constraints of the technology. Although interaction in SP was synchronous, it seemed to be 'laggy' at times depending on factors such as poor internet connection, and number of Avatars present in the setting (c.f. Appendix:1). At times nothing would move. Furthermore, as a newcomer to SP, I spent several hours learning in-world skills, such as building, or manipulating objects, and trying out various other features of SL Client. It is really interesting to explore what some of my friends termed a 'weird' or 'alien' environment – the 3D virtual world of SL (and therefore SP). Being able to access the research site anytime from the desktop means that it can be hard to detach oneself physically and mentally from the field, particularly when you are 'open to being taken by surprise by what occurs in the field' (Hine, 2000:47). However, I always had my research agenda in mind, and was aware of the associated danger of 'going native' (Adler & Adler, 1987: 17) whilst taking part in the activities.

5.5.3 Research Using an Avatar: Advantages and disadvantages

Conducting ethnography in graphical virtual environments seems to have both practical advantages and disadvantages. One of the practical benefits for the researcher having an Avatar is the travel cost, and since participant observation was conducted 'at-a-distance' it enabled me to write observational notes at my own pace, while at my desk (Williams, 2007:

19). Additionally, having an Avatar provided me with opportunity to video-record learning-teaching encounters in SP, with a minimal degree of 'reactivity' , i.e. the impact on the participants, and the field, was minimal. Video recording activities in conventional ethnography can more be challenging. Another advantage which is particularly applicable to conducting research in public areas of SL, is that one can observe, or video record, activities and people's behaviour, from the desktop simply by 'lurking', or by disguising oneself as a real 'fly on the wall' as it is possible to be virtually anything in SL.

However, having to rely on affordances of technology for interaction, not being able to communicate with participants face-to-face, and the lack of physical co-presence, often resulted in frustration. For instance, it was hard to achieve eye contact with other Avatars, and participants could not express their feelings as they would typically do, in real life, using non-verbal means of communication.

CHAPTER SIX: FINDINGS AND CONCLUSION

This chapter aims to summarise the main contribution of the study, to present the limitations, and point out some areas for future research.

6.1 Summary of Findings

6.1.1. Strategies used for structuring

The investigation reveals that experts scaffolded and structured novice participation in the activity mostly by providing explicit instructions, selecting activities and arranging materials, encouraging and praising the novices' efforts, using typed-writing and/or emoticons, and frequently monitoring activity and checking their understanding. Similarly, novices also actively engaged in the task, implementing instruction, asking for help and support, and seeking clarification. However, even though participants sought each others' opinions during the task accomplishment, evidence of collaboration was minimal, and mostly participants were working individually following the experts' instruction. Moreover, integration of an interactive whiteboard in SL client, and adding affordances to enhance Avatars' kinaesthetic behaviour, seems (e.g. making the Avatar gesture using a hand as we do in real life) to facilitate collaborative activities in SP.

Due to the constraints of SL, the dominant scaffolding, and structuring, strategy used by experts was direct-instruction, which helped novices extend their skills and knowledge to a higher level of competence. The experts made a few attempts to demonstrate the modelling of the task, learner efforts did not facilitate the acquisition of knowledge, as the

novices could only see the final product (e.g., an object created) but not the process of demonstration.

6.1.2 Multimodal accomplishment of Structuring

During the structuring process different modes were foreground at different times, however, typed-writing and Netspeak appeared to be the most dominant semiotic modes used by the experts, and novices, for interaction, for providing instruction, guidance and support, for praise and encouragement, and so on. Interaction in SP was interwoven with actions. For example, the experts provided instruction and demonstration, and novices implemented instruction by creating and manipulating prims, interacting with menus and interactive objects, and asking for help and support using typed-writing and Netspeak. Interactive objects such as colour-coded and pointed 'arrows' also guided novices, during the task, and helped them to move towards their ZPD.

Surprisingly, in SP, even though SL client afforded voice, and the integration of multimedia, such as video, and use of such modes could enhance teaching and learning processes, it was found, however, that, due to other constraints of technology (e.g. internet speed, lag), the instructional process mostly depended upon chat. Additionally, the kinaesthetic constraints limited Avatars from expressing meaning and feelings through facial expressions, eye contact, and hand gestures, for example.

It was found that participants utilized in-world media board, to display visual images, and web pages, imported from various online resources, to facilitate the learning process. Most

significantly, the integration of the SL browser afforded viewing/reading of hyperlinked web contents in-world. Therefore, experts and novices actions were not limited to multimodality, but were also facilitated by 'hypermodality' (Lamke, 2002)

6.1.3 Structuring and interpersonal meaning

In relation to attitude, the evidence suggests that participants in SP most frequently employed emoticons to express humour, or give emphasis to humorous comments, and for teasing and sarcasm, and happiness or pleasure, which significantly contributed to affective aspects of interpersonal meaning. However, the uses of emoticons for expressing sadness, or negative feelings, were found to be minimal. Use of emoticons also denoted degrees of intimacy/informality between participants.

As for social distance, it was found that interpersonal distance was shaped by different factors such as status of participants, gender and familiarity, and physical setting or spatial arrangement for the activities. For example, novices most of the time showed close physical proximity to each other.

The study reveals participants constructed a range of online personas giving full rein to their creativity, with unique and imaginative identities, such as having Avatars with fancy wings attached to them.

6.1.4 Advantages and disadvantages in the researcher having an Avatar

Within the 3D environment of SP, having an Avatar made it possible to conduct research, saving time and travel costs, and most importantly, since participant observation was

conducted 'at-a-distance' it enabled the researcher to write field-notes from his desk. Ethnography became more 'deskwork' than 'fieldwork'. Additionally, having an Avatar provided the researcher opportunities to video-record learning-teaching encounters in SP, with a minimal degree of 'reactivity'.

However, constraints of having an Avatar, such as the inability of the Avatar to use gestures, or mime, and to initiate and maintain gaze, and the lack of physical co-presence, often resulted in frustration. For instance, it was hard to achieve eye contact with other Avatars, and participants could not express their feelings as they would typically do, in face-to-face settings, using non-verbal means of communication. Such constraints further created challenge for the researcher to establish rapport, and maintain a relationship with participants.

6.2 Strengths and limitations of this research

This study explored how processes of guided participation, particularly structuring, in SP was carried out multimodally. It could form a basis for exploring how interaction is accomplished multimodally in different virtual environments, as a comparative study. Applying participant observation in a 'disembodied' graphical environment, to observe 'unknown' participants, has raised some issues and concerns that can inform ethnographic practices in a virtual environment. It sheds some light on the issues related to conducting research in a virtual setting/ mediated environment. Additionally, the study highlights some of the problems associated with the application of the multimodal framework, proposed by Kress and van Leeuwen (1996; 2001), while analysing multimodal meaning-making in learning-teaching

encounters in SP. Finally, the study suggests that to preserve the significance of learning through internet participation, virtual worlds should be designed in such a way that affords learners to 'watch', and 'see', the process of task accomplishment, in order to promote learning that occurs through observation.

This study was conducted in a particular area of Second Life Teen Grid, Schome Park, with a small number of participants, therefore this research does not claim to have 'ecological validity', which concerns the extent that one can generalise from the experimental setting to other settings, so wider generalisation should be treated with caution. That is to say, the lack of participants' identities present in SP, leads to difficulty in generalizing results to groups outside the Schome Community.

Additionally, within the limitation of this study, and with time constraints, it was not possible to explore representational and compositional meanings which are significant components of multimodal meaning making.

Finally, this micro- ethnographic study did not involve 'long-term immersion' in the virtual setting of Schome Park, and due to Schome ethos, no provision was made to interview the research participants. Triangulating observational data, with interview data, would certainly provide an opportunity to have a more complete understanding of the processes of learning-teaching, and about participants' experiences, and to view the data from different perspectives. However, as explained elsewhere, it was not possible to interview participants because their personal information was not revealed. Online interviews, through Schome

forum, could have been conducted, but as not all participants used this, and also as SP closed on 31st May, such interviews were not possible

6.3 Future Research

The study was initially aimed at exploring the processes of guided participation: bridging, structuring, and transfer of responsibility. Nevertheless, close examination of data suggested that the instructional process relied heavily on structuring strategies. The experts often transferred the responsibility for handling tasks to the novices during construction; however, due to the word limit of this research, it was not possible to investigate it. Since natural, emotional, and nonverbal, cues are missing in SP, and the fact that building bridges between existing and knowledge to be acquired, relies heavily on nonverbal cues and facial expressions, there was minimal use of bridging strategies. However, further research could be conducted on whether the same applies to all other SL locations, where participants can upload commercially available emotional, and nonverbal, means of communication such as gestures, and varieties of audible expressions.

Additionally, the SL client provided affordances for creating unique identities. As a result, participants in SP constructed, and maintained, unique online personas, but without knowing their offline identities, it was not possible to investigate the extent to which their online personas reflected the persons behind the avatar, and their offline identities. Future research, on this, could make an interesting study.

6.4 Conclusion

The examination of learning-teaching encounters in Schome Park shows that interactions, between experts/more competent members, and novices, exhibited an asymmetric relationship, in that novices acquired the knowledge and skills required to carry out problem-solving tasks, through instruction and guidance provided by more competent members of the group. The asymmetry of the power relationship was exhibited in terms of: a) knowledge and expertise that participants possess (e.g. expert vs. novice), and b) the social roles and status of participants in the group (e.g. session leader vs. participant).

Various modes, such as visual images and actions, were orchestrated during the processes of multimodal learning-teaching encounters in SP, but typed-writing was the most dominant. Nonetheless, due to technological constraints, orchestration of video, or streaming media, and nonverbal modes were minimal.

Finally, having not been able to 'see' experts' demonstrations, and the process of virtual artefacts construction, and due to the lack of face-to-face non-verbal means of communication such as gaze, body posture, and facial expressions, in SP, the significance of learning through guided or intent participation have been challenged. It is particularly problematic in the sense that in guided, or intent, participation novices develop their knowledge and skills through observation, and rely on emotional and nonverbal cues to interpret ambiguous situations. The essence of guided/intent participation could be enhanced: by designing virtual environments in a way that affords participants to view the

process of virtual artefacts construction, and adapting the principles of guided/intent participation giving emphasis to the importance of *intrinsic motivation and self-determination* in the learning process, rather than simply stressing learning by participation, observation and eavesdropping. In SP, participants learned to build, with guidance and support provided by the experts, and also through using resources available over the internet such as YouTube videos.

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Appendices

Appendix 1

Definition of Key Terms

AFK: Away from keyboard (afk) means a user may appear to be online, but there's no one at the keyboard typing. You are AFK when you have to leave the computer (or do something in another program outside of Second Life but don't want to log off). This tells people you are online, but not responding. Typing "AFK" in chat causes your avatar to display "(AWAY)" after its name. After 30 minutes of inactivity, you will be automatically logged off Second Life.

AVATAR: A graphical representation of a user in a virtual environment

DISTANCE: It is the second key elements of the interpersonal meaning. This is like social distance, suggesting intimacy and remoteness. The second aspect is social distance, i.e. the degree of physical closeness or remoteness between participant, i.e. intimate (close distance), social (medium distance), impersonal (far distance).

CHATLOG: A record of chat interaction.

CONTACT/GAZE: It is one of the key elements of interpersonal meaning. It refers to the extent in which we are encouraged to engage with the participants. It has two components: demand and offer. Demand represents the direct look of the RP at the

viewer. It causes the viewer to feel a strong engagement with the RP. Offer represents the non direct look of RP at the viewer. Here the RP looking outside the picture or at someone or something within the image. In this case the RP becomes an object of contemplation for the viewer creating less engagement than that of the demand.

FORUM: A forum is an online message board where information can be shared and discussions can be carried out and read. It can be open to all, and also it can also be made accessible to a only certain groups, or registered users. For example, Schome forum is open to the public but they need to register their user name, and password, to have access to discussions.

FRAMING: Framing is one of three key aspect of compositional meaning. It refers to the way elements of a composition are connected, or separate from each other by such things as space, boundary lines, repetition of size and colour. The connection, or separation, between elements comprises *segregation* (boundaries/use of physical frames to create difference), *separation* (spacing/ space can be bridged), *integration* (embedding and combination of various elements in the same space), *overlap* (breaking frames), *rhyme* (paralleling and repetition- colour, posture, size, etc can be used to create links between elements) and *contrast* (e.g. colour, posture, size, etc can be used to indicate difference between elements).

FREEZE: A condition where the Second Life program (and occasionally the computer) stops responding.

INFORMATION VALUE: Informational value is one of the three main aspects of compositional meaning. It refers to the meaningful positioning of content in (semantic) space such as left-right, up-down, and foreground-background. In other words, it is concerned with 'meanings conveyed by the way elements are arranged in 2-dimensional, or 3-dimensional, space such as a magazine page, a computer screen, a room', and so on (van Leeuwen, 2003:24).

LAG/ LAGGY: A delay in SL client caused by slow internet connections, lag caused by too many avatars in an area, and laggy due to the use of lots of objects or many scripted items at once in the same place. For example, when there is a lag, in-world, difficulty is faced in moving avatars, or typed text does not appear immediately on the screen.

OBJECT: Any three-dimensional construction in Second Life. Objects are built from a primitive base. Frequently, owners will link the primitives together into one cohesive object.

PACIFIC DAYLIGHT TIME (PDT): PDT is used in summer in the Pacific Time Zone of the United States of America (USA) and Canada which is 7 hours behind Greenwich Mean Time (GMT-7). Pacific Standard Time (PST) which is used during winter is 8 hours behind GMT (GMT-8).

PERSPECTIVE: This can create power relationships and also involvement. For example, Vertical Angle defines the nature of the power relations between the viewer and the

image. It has three main components: high angle (that is viewed above- the interactive participants are in a position of power) ,straight on angle (at the eye level- there is no power difference involved and the point of view is one of equality) and low angle (gives the represented participants-as they are seen below power in relation to the interactive participants. Horizontal Angles encode the involvement of the reader with the image through frontal and oblique point of view. Whereas, frontal denotes involvement and oblique denotes detachment. The third aspect perspective is represented by whether elements in images are filmed from below (low angle) or from above (high angle), or at the eye-level (medium angle), from the front, the side or back. The degree of power, and the degree of attachment or detachment between participants and viewer, depends on camera angle, for example, the *vertical angle* usually expresses power, whereas *horizontal angle* such as frontality denotes involvement and *oblique angle* reflects detachment (Kress and van Leeuwen, 1996:146-7).

PRIM (short for primitive): The building-blocks from which everything is constructed in SL.

A prim is a geometrical shape that can be manipulated, stretched, twisted, hollowed, turned into various forms, linked to other prims, and scripted. All land has a limited number of prims available to use on it. Each object has a 'prim count' which is the total number of shapes the object is comprised of.

REZ/DEREZ: **Rez** means to create or make an object gradually appear in-world. It also refers to the process of dragging and dropping an object from the inventory to in-world i.e.

loading, or the appearance of, stuff such as texture, objects and so on. The process of removing/deleting objects from in-world is called 'derez' or derezzing.

SANDBOX – In SL, it refers to a public space available for anyone to build on. However, since SP is a 'restricted' area for the public, only members of 'Scommunity' can build in certain areas allocated for 'building'.

SALIENCE: Salience is one of the key aspects of compositional meaning. It refers to the way some elements of the composition are 'made eye-catching (or earcatching) in relation to other elements' (van Leeuwen, 2003:24). It is the degree to which certain features of composition are given semiotic prominence, or made to 'stand out', in order to emphasize them. It can be achieved through various means of textual composition such as screen/page/image layout, *typography (e.g. weight, size/shape of fonts)*, *use of different colour, tone* (e.g. use of brightness), and *repetition* of elements (Machin, 2007:130).

SECOND LIFE TIME (SLT): SLT is Second Life Time, which is displayed on the top-right corner of the SL window. SLT is the same as Pacific Time (PDT or PST depending), because these times are based on the time zone (i.e. San Francisco) where Second Life creator Linden Lab is located. Here in this research, time shown in Schome Park activities denotes SLT.

TELEPORT - A way of moving from one location to another in SL

TEXTURE – ‘A texture can be used to cover the faces of a prim as a visual representation of the material and look of an object or be used to make clothing or other tatoos or be put in a note-card’(Second life wiki, 2008 <http://wiki.secondlife.com/wiki/Textures>).

WIKI: A wiki is a website where users can create, remove, and sometimes modify and organize page content in a collaborative manner.

Appendix 2**Coding of observation (Strategies used for structuring)**

Session:

Date:

Time:

Participants:

Expert(s):

Novices:

Structuring Strategies	Aqueduct sessions	Stonehenge sessions
Explicit/direct instruction		
Simplifying /Subdividing task		
Explanation/ demonstration		
Encouragement / confirmation using emoticons		
Reminder about goal		
Directing attention to process		
Novices seeks attentions		
Transfer of responsibility		

Appendix 3**Coding of observation (Interpersonal Meaning)**

Session:

Date:

Time:

Participants:

Expert(s):

Novices:

Interpersonal/Interactive meaning	Aqueduct Sessions	Stonehenge Sessions
Social Distance		
Personal or Close		
Social or medium		
Impersonal or distant		
Attitude:		
Emoticons		
Online Persona		
Perspective :		
<u>Vertical angle: power</u>		
Low angle:		
Straight on: at eye-level, equality		
High angle: power		
<u>Horizontal angle</u>		
Frontal: involvement		
Oblique: detachment		

Appendix 4**Coding of observation (Modes)**

Session:

Date:

Time:

Participants:

Expert(s):

Novices:

Time	Typed-writing/ Netspeak	or	Action	Visual	Contextual Notes

Appendix 5**Coding of observation (Emoticons)**

Session:

Date:

Time:

Participants:

Expert(s):

Novices:

Emoticons	Sentiment	Examples/contextual use

Appendix 6**Some examples of structuring strategies Used in Stonehenge**

<u>Strategies used in</u> <u>structuring</u>	<u>Few examples with Brief description of</u> <u>contexts</u>	<u>Location in</u> <u>Episode</u>
Explicit/direct instruction	Toby showing how to enable voice chat	11:28
	Max instruction about playing parcel media	11:33
	Max showing how everyone can edit all objects made	11:45
	Max instructions on tapering	11:52
	Max-positive /negative tapering	11:53
	Max-you bring the sides of close together at the top	11:50
Demonstration	Max – demo of setting a prim	11:43
	Max-Do you ‘see’ how I’ve brought the top in as if squeezing it?	11:51
Explanation	Max- use of collaboration	11:49
	Toby – the need of activate voice	11:25
Encouragement/confirmation using emoticons	Max – fantastic :) (when Yati understood)	11:54
	Max- Nice Yati, even used twisting :)	11:56

Reminder about the goal	Mar-Right, shall we pop over the hedge area??	11:30
Directing attention to the process		11:43
Subdividing task		
Verbal prompt		
Direct assistance (handles difficult aspect)		
Novice seeks assistance	Yati- How do we change the shape as u did	11:51
Novice sought clarification	Kitty-Y did yours go red?	11:51
	Kitty- a box??	11:44
Structure through joint participation/shared endeavours	Max-ok, shall we mark out the area?	11:35-11:40

Appendix 7

Some examples of modes used in Stonehenge 1

<u>Time</u>	<u>Typed-writing/Netspeak</u>	<u>Action</u>	<u>Visual</u>	<u>Contextual Notes</u>
11.25	!!!!!!!			Novice indicating surprise/questioning
			Media board	Picture of Stonehenge, which the group will be building
	Y?/?			Novice questioning expert
	Brb			Participant temporarily offline
			Menu preference window	
	Explanation			Expert indicates need for enabling voice
11.26	☺			Expert apologises for being late
		Interaction with building menu		Expert chooses options
11.27		Teleporting		Expert moves to group from distance away
11.28	Instructions			Expert shows how to enable voice chat
11.29	Brb			Expert leaves to go to another area
			Media board	Map of islands in Schome Park
11.30	☺			Expert apologises for leaving the group
11.31			Media board	Pictures of participants who are online/offline
11.32			Media board	Archeology board, entitled 'Henges'
11.33	Instructions			Expert teaching how to open a picture using 'parcel media'
			In-world notice board	Indicating how to access info of upcoming events
		Movement of		Expert pushes large grey block of stone

11.35	Question/suggestion/consultation	large object		Expert asks novices about the area needed for the building
11.36		One expert points towards the other		Trying to attract attention when trying to give information
11.38	Discussion/collaboration			Expert and novices try to decide on area size to be used
		Modification of object		Expert changes block into circular base
11.39	Hyper Link			Expert posts link to a similar construction to Stonehenge
		Modification of object		Expert changes depth of base
	Lol			Expert shows sympathy for a novice's confusion
11.40	Hyperlink			Expert sends picture of standing stones
			Media browser window	Picture of Callanish to show similarity to Stonehenge and to offer a choice
11.41		Modification of object	Menu window	Expert changes solid base into same diameter ring
11.42			Menu window	Showing Camtasia
	Lol			Expert lightens the mood as he thinks novices might be bored
	Suggestion ☺			Expert tells novices to 'Feel free to and encourages them to try
11.43	Question			Expert asks if novices can 'Set a prim to group'
		Demonstration		Expert creates prim
	Instruction			Expert tells novices how to 'Set a prim to group'
11.44			Menu	Edit terrain/About land/Go there/Create
			Menu	Giving selection of shapes to use.
		Creation of objects		Experts and novices 'Rez a prim'
		Modification of objects		Novice changes size of his prim several times, and moves it about
			Edit panel	

			Menu	General objectives/Features/Textures/Content
	Question			Expert asks all novices if they have successfully made a prim
	Question			Novice seeks clarification from expert
11.45		Modification of object		One expert causes his prim to fall over
	Question			One novice checking that another is understanding
			Edit Panel	Novice using this to modify his prim
		Modification of object		One novice is experimenting and changing position and size of his prim
11.46			Edit Panel	
			Menu	Headed 'Groups'
	Instruction/Questioning			Expert asks novices about their menu panel to check that they are all using same one
	Clarification			Expert checks that they all have the big edit panel open
11.46 to 11.48	Instructions			Expert tells how to 'Set to group' enabling each to edit others' objects
	😊			Expert encourages novices
11.49	Question			Expert asks novices 'Do you all know how to taper prims?'
11.50		Modification of object		Expert turns his prim to red, from yellow.
	Demonstration- see/watch			Expert shows novices how to taper a prim
			Edit panel	Novice continuing to change his prim and experiment with shape and then tapering
			(Circular) menu	
11.51		Modification of objects		Expert returns his prim to a regular rectangular block
	Lol			2 novices indicate that they are enjoying watching the demonstration
	Question			Novice asks expert why did his prim change colour
	Explanation 😊			Expert had drawn attention to his prim. 'Smiling' when he said 'and you looked at it'

		Modifications		Novices and expert continue to alter the shapes of their prims
11.52	Explanation			Expert tells of positive and negative tapering Novice continues to experiment following explanation
11.53		Interacts with menu	Edit panel	Novice makes her prim taller and moves it into the water behind her
		Modification of object		Novices and expert continue to change size and shape of their prims
	😊			Expert encourages novices to 'play about with their prims' and experiment with possibilities
11.54	Question/confirmation			Experts seeks confirmation that the novices are understanding what they are doing
	😊			Expert praises novice
	😊			Expert indicates pleasure when the other expert returns
11.55			Menu	
		Interacts with menu	Edit panel	Novice manages to twist his prim
		Interacts with menu	Colour picker menu	Novice changes his prim brown
				Another novice has twisted her prim
			Inventory panel	Giving range of textures etc
		Clicks on several choices		Novice changes one side of his prim with stone colour/texture
11.56	Praise 😊			Expert gives verbal praise and emoticon, to a novice who is working well
		Interacts with menus	Edit Panel and Inventory	Novice changes all sides of his prim to the stone colour/texture, and continues to try different sizes etc
11.59		Modifications		Novices continue to experiment with colour/size/shape etc
12.00	Question			Expert asks novices to grade the interest level of the activity

12.01	Question lol				Novice lands in the water and asks herself how she got there, laughing to herself
	😊				Expert says goodbye and leaves
	😊				Assures a novice that she has been no trouble
12.03	Question the lol				One novice asks another 'Where are you going?' when she lands in the water again, and laughs

Appendix 8 : Uses of emoticons to express attitude

Emoticons	Teasing/ sarcasm	Humour/ Joking	Apology	Encouragement/ Praise	Confusion/ Puzzlement	Surprise	Happiness /Pleasure	Sociability	Sadness/ Disappointment /frustration	Reassurance	Total
:), :-) or =) (happy, joking, smiling)		76	11	23		3	34	21		12	180 (53.25%)
:P, or =p (poking tongue out)	51	17							13		81 (23.96%)
:D, =D (said with a smile)	3			7				12		5	27 (7.99%)
^^ or ^ (thumbs up)	5						8				13 (3.85%)
=/ (confuse)					11						11 (3.25%)
# (lips sealed)	1				7			2			10 (2.96%)
:) (winking)	3	4									7 (2.07%)
:O (surprised)						5					5 (1.48%)
: (, =((sad)									2		2 (0.59%)
:((very sad									1		1 (0.30%)
:S (loss of words)	1										1 (0.30%)
Total	64 18.93%	97 28.7%	11 3.25%	30 8.88%	18 5.33%	8 2.37%	42 12.43%	35 10.35%	16 4.73%	17 5.03%	338 (100%)

Appendix 9**Some examples of emoticons used to express feelings in Stonehenge 1**

Emoticons	Sentiment	Examples/contextual use
:) or :-)	Apology	11.27 Max apologises for being late- 'hi sorry I'm later :)'
		11.30 Max apologises for leaving novices alone- 'sorry guys :)'
		11.44 Max apologises that his screen is 'laggy'- 'it's a little laggy today so be patient :)'
	Encouragement	11.43 Max wants novices to try - 'If you rez a prim :)'
		11.52 Max wants novices to try tapering- 'have a play about with that :)'
	Humour	11.52Max on being asked why his prim turned red- 'Cos I made it red so it stood out and you looked at it :)'
	Praise	11.54 Max- when novices followed instructions to taper- 'fantastic :)'
		11.56 Max-when Yati tapered and twisted his prim- Nice Yati, even used twisting :)'
	Joking/Surprise	11.54 banter between Max and Toby- 'wb Toby! :)'
	Sociability	12.01 as Max leaves- 'bye :)'
	Sociability	Fox Phlox on joining the group- ';-)'
	Reassurance	12.02 telling Kitty that she's been no trouble- 'no worries Kitty-you've not been trouble :)'
:('	Sadness	11.48 Toby feels he's been omitted from activity- ' :)'
#	Puzzlement	11.51 Kitty asks 'Y did your go red??#
	Sarcasm	11.57 Toby 'ahhh I'm no longer n#banned'
	Sociability	12.02 as Alisha leaves- 'bye#'
	Encouragement	11.32 Alan, while discussing choice of build - 'Acqueduct will be easier #'
=p	Sadness /disappointment	Unhappy as no-one seemed to want to join in the activity she wanted to do. Vera 'I'm

			quite sad and am interested in all this kind a stuff.. =p'	
:P		Mick Horror (sticking tongue out)	11.28 on hearing that Toby was going to sing, Max says-'heh :p'	
		Frustration	11.30 Kim asks for votes and gets no immediate reply-'Anyone? :p'	
			11.31 Max is waving but can't be seen by KIM-'I'm waving :p'	
			11.32 Toby wants to build Acqeduct, but others don't- 'say Acqeduct :p'	
		Teasing/sarcasm	11.35 Max responding to a comment by Toby- 'ha :p'	
			11.35 'Now now Toby don't get ejected :p'	
			11.37 Ongoing banter/argument between Max and Toby -- 'I'll eject you :p'	
			11.38 Kim responds --':p'	
;) or ;-)		Winking	11.48 Max to novices following his instructions -- 'Time Explorer ☺'	

Appendix 10: Sample Chat logs - Stonehenge Session 1

[2008/04/24 11:17] Ben Schomer is Online
[2008/04/24 11:17] Toby Schomer is Online
[2008/04/24 11:17] Kitty Schomer is Online
[2008/04/24 11:18] Alisa Schomer: i would have won
[2008/04/24 11:18] Toby Schomer: i am not on anything (just dont metion the time i had a massive suger rush.....)
[2008/04/24 11:18] Yati: hi evey1
[2008/04/24 11:18] Kitty Schomer: hiya
[2008/04/24 11:18] Alisa Schomer: hiya
[2008/04/24 11:18] Toby Schomer: hi yati
[2008/04/24 11:18] Kitty Schomer: no bi was talking about yati
[2008/04/24 11:18] Kitty Schomer: sorry
[2008/04/24 11:18] Toby Schomer kide in the memory of that suger rush

[2008/04/24 11:18] Yati: talking about me??

[2008/04/24 11:19] Kitty Schomer: nooooooooo

[2008/04/24 11:19] Toby Schomer shrugs

[2008/04/24 11:19] Kitty Schomer: Finns snoring and singing in his sleep rivz lol

[2008/04/24 11:19] Alisa Schomer: loo

[2008/04/24 11:19] Alisa Schomer: lol

[2008/04/24 11:20] Kitty Schomer: its ssooo funny

[2008/04/24 11:20] Alisa Schomer: wots he singing?

[2008/04/24 11:20] Toby Schomer: finn??/

[2008/04/24 11:20] Kitty Schomer: wind the bobin up

[2008/04/24 11:20] Alisa Schomer: lol

[2008/04/24 11:20] Toby Schomer can create music torture

[2008/04/24 11:20] Kitty Schomer: what singing in ur sleep???

[2008/04/24 11:21] Kitty Schomer: he loves that song lol

[2008/04/24 11:21] Toby Schomer: nope i just go and make a cup off tea in my sleep

[2008/04/24 11:21] Alisa Schomer: lol

[2008/04/24 11:21] Toby Schomer sings terrably

[2008/04/24 11:21] Kitty Schomer: lol

[2008/04/24 11:21] Toby Schomer: you don't want to here it

[2008/04/24 11:21] Kitty Schomer: hehe

[2008/04/24 11:22] Kitty Schomer: do u sing yati??

[2008/04/24 11:22] Yati: no

[2008/04/24 11:22] Kitty Schomer: rivz

[2008/04/24 11:22] Toby Schomer: be warned though i have a mic and am not afraid to torture people with it Mwahaha

[2008/04/24 11:22] Kitty Schomer: run away

[2008/04/24 11:22] Alisa Schomer: lol

[2008/04/24 11:22] Yati: haha

[2008/04/24 11:22] Yati: are u a good singer Toby?

[2008/04/24 11:22] Toby Schomer: only if i get really annoyed
[2008/04/24 11:23] Toby Schomer: i was told i was good
[2008/04/24 11:23] Kitty Schomer: oh
[2008/04/24 11:23] Toby Schomer: but its BEEP
[2008/04/24 11:23] Kitty Schomer: oh
[2008/04/24 11:23] Yati: cool
[2008/04/24 11:23] Kitty Schomer: brb doorbell
[2008/04/24 11:23] Toby Schomer: i can sing if you want to make your mind up
[2008/04/24 11:24] Alisa Schomer: brb
[2008/04/24 11:24] Yati: well u can try
[2008/04/24 11:24] Toby Schomer: what song
[2008/04/24 11:24] Yati: any u like
[2008/04/24 11:24] Alisa Schomer: bk
[2008/04/24 11:24] Toby Schomer: well what genra

[2008/04/24 11:24] Kitty Schomer: bk
[2008/04/24 11:25] Kitty Schomer: sing sing Toby
[2008/04/24 11:25] Toby Schomer: yorkshire traditional indie or whatever
[2008/04/24 11:25] Kitty Schomer: !!!!!
[2008/04/24 11:25] Toby Schomer: haha
[2008/04/24 11:25] Yati: ok
[2008/04/24 11:25] Toby Schomer: you wont here it
[2008/04/24 11:25] Kitty Schomer: y??/
[2008/04/24 11:25] Alisa Schomer: brb
[2008/04/24 11:25] Toby Schomer: you need to activate voice
[2008/04/24 11:25] Kitty Schomer: on what??
[2008/04/24 11:25] Kitty Schomer: ok
[2008/04/24 11:25] Yati: ok
[2008/04/24 11:26] Alisa Schomer: back

[2008/04/24 11:26] Max Schomer is Online

[2008/04/24 11:27] Toby Schomer: you want to now how to put voice on??

[2008/04/24 11:27] Kitty Schomer: yup

[2008/04/24 11:27] Yati: hi mars

[2008/04/24 11:27] Kitty Schomer: hiya mars

[2008/04/24 11:27] Max Schomer: hi sorry I'm later :)

[2008/04/24 11:28] Toby Schomer: edit > preferences > voice chat > tick enable voice chat

[2008/04/24 11:28] Kitty Schomer: Toby was going to sing for us lol

[2008/04/24 11:28] Max Schomer: heh :P

[2008/04/24 11:28] Toby Schomer: mars knows how bad it is

[2008/04/24 11:28] Max Schomer: Is anyone on for Archaeology or are you all coming tomorrow, or...?

[2008/04/24 11:28] Max Schomer: lol Toby

[2008/04/24 11:28] Toby Schomer: oh mars can you go to the marina a sec

[2008/04/24 11:28] Yati: i came for archeology

[2008/04/24 11:28] Kitty Schomer: yup
[2008/04/24 11:28] Max Schomer: ok doke
[2008/04/24 11:29] Max Schomer: Brb then guys, what's up Toby?
[2008/04/24 11:29] Toby Schomer: can just go over a sec
[2008/04/24 11:29] Max Schomer: ok
[2008/04/24 11:30] Yati: no Vera today
[2008/04/24 11:30] Kitty Schomer: where did Toby go
[2008/04/24 11:30] Kitty Schomer: nope i haven't seen her
[2008/04/24 11:30] Max Schomer: sorry guys :)
[2008/04/24 11:30] Toby Schomer: got you back now mars
[2008/04/24 11:30] Max Schomer: Right, shall we pop over to the henge area??
[2008/04/24 11:30] Max Schomer: lol
[2008/04/24 11:30] Yati: ok
[2008/04/24 11:30] Alisa Schomer: ok

[2008/04/24 11:31] Kitty Schomer: ok

[2008/04/24 11:31] Max Schomer: sorry

[2008/04/24 11:31] Max Schomer: had to

[2008/04/24 11:32] Toby Schomer: Max schomer you just wait

[2008/04/24 11:32] Max Schomer: ok doke - I hear that you found a decent texture last time, Rippling

[2008/04/24 11:32] Toby Schomer: i'll get someone to obit you

[2008/04/24 11:33] Toby Schomer: this just personal mars

[2008/04/24 11:33] Max Schomer: ok.... just set the parcel media to the picture again

[2008/04/24 11:33] Toby Schomer: all push

[2008/04/24 11:33] Toby Schomer: all push the block

[2008/04/24 11:34] IM: Kitty Schomer: Toby didn'tsing in the end did he

[2008/04/24 11:34] Max Schomer: ok so if you play the parcel media, or double click you can open the picture

[2008/04/24 11:34] Max Schomer: remember?

[2008/04/24 11:34] Yati: ya

[2008/04/24 11:34] Alisa Schomer: yup
[2008/04/24 11:34] Kitty Schomer: it worked yup
[2008/04/24 11:34] Toby Schomer: whats the one on harris
[2008/04/24 11:34] Toby Schomer: or is it lewis
[2008/04/24 11:35] Max Schomer: sorry froze
[2008/04/24 11:35] Yati: one herris
[2008/04/24 11:35] Max Schomer: ok, shall we mark out the area?
[2008/04/24 11:35] Max Schomer: How big do you think the whole thing should be?
[2008/04/24 11:35] Kitty Schomer: ok
[2008/04/24 11:35] Yati: not too big i guess
[2008/04/24 11:36] Max Schomer: if this prim is one meter, what do you reckon?
[2008/04/24 11:36] Yati: what kitty river n Toby think
[2008/04/24 11:36] Kitty Schomer: ummm
[2008/04/24 11:36] Toby Schomer: Calish

[2008/04/24 11:36] Yati: that's good i think 1 m

[2008/04/24 11:36] Toby Schomer: thats good

[2008/04/24 11:36] Kitty Schomer: yer 1m

[2008/04/24 11:36] Alisa Schomer: yer

[2008/04/24 11:36] Max Schomer: ok - but overall, the whole site, how big shall we extend?

[2008/04/24 11:37] Max Schomer: what about from River.....

[2008/04/24 11:37] Max Schomer: To here?

[2008/04/24 11:37] Toby Schomer: mars

[2008/04/24 11:37] Max Schomer: I think that might be just over 10 m

[2008/04/24 11:37] Max Schomer: yup?

[2008/04/24 11:37] Yati: ok mars

[2008/04/24 11:37] Alisa Schomer: ok

[2008/04/24 11:37] Toby Schomer: have you seen clanish

[2008/04/24 11:37] Max Schomer: nope

[2008/04/24 11:37] Yati: which one mars?

[2008/04/24 11:38] Max Schomer: is he/she a new person or is that RL?

[2008/04/24 11:38] Max Schomer: Sorry Yati?

[2008/04/24 11:38] Max Schomer is confused lol

[2008/04/24 11:38] Yati: oh

[2008/04/24 11:38] Yati: wauu

[2008/04/24 11:38] Max Schomer: What do you think size wise?

[2008/04/24 11:39] Max Schomer: Too big/small or just right?

[2008/04/24 11:39] Toby Schomer: <http://www.joyflowers.net/images/Scotland2000/Callanish-standing-stones.jpg>

[2008/04/24 11:39] Toby Schomer: thats a good example

[2008/04/24 11:39] Yati: it looks right to me, wot other think?

[2008/04/24 11:39] Max Schomer: that's very similar Toby isn't it?

[2008/04/24 11:39] Max Schomer: Thanks for the link

[2008/04/24 11:39] Max Schomer: What do you think then River, Tiger?

[2008/04/24 11:40] Kitty Schomer: its fine

[2008/04/24 11:40] Alisa Schomer: yer it good

[2008/04/24 11:40] Kitty Schomer: maybe a bit 2 small

[2008/04/24 11:40] Max Schomer: ok, I guess we can always extend outwards if needs be

[2008/04/24 11:40] Kitty Schomer: nope its good

[2008/04/24 11:40] Max Schomer: Sure?

[2008/04/24 11:40] Kitty Schomer: yer ok

[2008/04/24 11:40] Toby Schomer: http://217.204.10.75/img_bg/13660.jpg

[2008/04/24 11:41] Toby Schomer: callnish is better than stonehenge in the fact its pupose is more clear on a island of great
significance etc

[2008/04/24 11:41] Max Schomer: oh right, so we know its purpose?

[2008/04/24 11:41] Max Schomer: We should look at that in more detail

[2008/04/24 11:41] Toby Schomer: not exatly but its slightly more clear if i remeber correctly

[2008/04/24 11:42] Max Schomer: ok, Yati, River and Kitty feel free to rez a prim and play with it til we get the right shapes etc

[2008/04/24 11:42] Max Schomer: And please say if this is boring! lol

[2008/04/24 11:42] Kitty Schomer: ok

[2008/04/24 11:42] Yati: no no

[2008/04/24 11:43] Max Schomer: One thing, do you know how to set a prim to group?

[2008/04/24 11:43] Yati: nope

[2008/04/24 11:43] Kitty Schomer: nope

[2008/04/24 11:43] Alisa Schomer: no

[2008/04/24 11:43] Max Schomer: ok, quick demo

[2008/04/24 11:43] Yati: ok

[2008/04/24 11:43] Max Schomer: If you rez a prim :)

[2008/04/24 11:44] Max Schomer: hello...? lol

[2008/04/24 11:44] Yati: hi mars

[2008/04/24 11:44] Kitty Schomer: hello

[2008/04/24 11:44] Max Schomer: lol sorry - if you all rez a prim each

[2008/04/24 11:44] Yati: ok

[2008/04/24 11:44] Kitty Schomer: oh ok

[2008/04/24 11:44] Max Schomer: Then it might be easier to understand

[2008/04/24 11:44] Alisa Schomer: ok

[2008/04/24 11:44] Max Schomer: it's a little laggy today so be patient :)

[2008/04/24 11:44] Max Schomer: Ok all got one?

[2008/04/24 11:44] Kitty Schomer: a box ??]

[2008/04/24 11:45] Max Schomer: yup a plain box

[2008/04/24 11:45] Kitty Schomer: yup

[2008/04/24 11:45] Kitty Schomer: rivz ???

[2008/04/24 11:45] Max Schomer: ok doke, River?

[2008/04/24 11:45] Max Schomer: ok we've all got one

[2008/04/24 11:45] Toby Schomer: gahh mine rush it fall over

[2008/04/24 11:45] Max Schomer: If you stay on the edit panel -is it long or short?

[2008/04/24 11:45] Max Schomer: If it's short, press more

[2008/04/24 11:45] Max Schomer: ok, so we all have the big edit panel open, ye?

[2008/04/24 11:45] Kitty Schomer: its long

[2008/04/24 11:46] Max Schomer: ok great

[2008/04/24 11:46] Kitty Schomer: ye

[2008/04/24 11:46] Max Schomer: River, Yati?

[2008/04/24 11:46] Yati: mine is longer pane too

[2008/04/24 11:46] Max Schomer: ok great

[2008/04/24 11:46] Max Schomer: Now on the general tab, if you look just under the white name box

[2008/04/24 11:46] Kitty Schomer: yea

[2008/04/24 11:46] Max Schomer: There are three buttons, profile, profile and set

[2008/04/24 11:47] Kitty Schomer: ok

[2008/04/24 11:47] Max Schomer: The one we're interested in is set

[2008/04/24 11:47] Yati: ya

[2008/04/24 11:47] Max Schomer: If you click on that, another box comes up

[2008/04/24 11:47] Max Schomer: All following so far?

[2008/04/24 11:47] Yati: i do

[2008/04/24 11:47] Max Schomer: great

[2008/04/24 11:47] Kitty Schomer: it say choose a group

[2008/04/24 11:47] Toby Schomer wasent welcome to rez a prim

[2008/04/24 11:47] Max Schomer: ok, now if you scroll down in the new box, you should come across a group called SPP time explorers

[2008/04/24 11:48] Max Schomer: Click on that, and click ok

[2008/04/24 11:48] Yati: time explorer n park mentors, only 2 group available

[2008/04/24 11:48] Toby Schomer is going as he is not welcome to do thins

[2008/04/24 11:48] Max Schomer: Time Explorer :)

[2008/04/24 11:48] Kitty Schomer: yea i only have 2

[2008/04/24 11:48] Toby Schomer: :(

[2008/04/24 11:48] Max Schomer: sorry Toby?

[2008/04/24 11:48] Max Schomer: Ok it should be Time Explorers the one you click on

[2008/04/24 11:48] Max Schomer: Then click ok

[2008/04/24 11:49] Yati: done

[2008/04/24 11:49] Max Schomer: By setting to group, you allow anyone and everyone in that group to edit your object

[2008/04/24 11:49] Kitty Schomer: i have time travellers n the marina team

[2008/04/24 11:49] Kitty Schomer: thats all

[2008/04/24 11:49] Max Schomer: So be careful, but it just allows us to collaborate better :)

[2008/04/24 11:49] Kitty Schomer: ok

[2008/04/24 11:49] Max Schomer: Ok, do you all know how to Taper prims?

[2008/04/24 11:50] Yati: no

[2008/04/24 11:50] Kitty Schomer: nope

[2008/04/24 11:50] Max Schomer: Right, by Tapering a prim

[2008/04/24 11:50] Max Schomer: you bring the sides in close together at the top

[2008/04/24 11:50] Max Schomer: if you just watch this red prim
[2008/04/24 11:51] Yati: sorry i m lost
[2008/04/24 11:51] Kitty Schomer: me 2
[2008/04/24 11:51] Max Schomer: Do you see how I've brought the top in as if squeezing it?
[2008/04/24 11:51] Kitty Schomer: lol
[2008/04/24 11:51] Max Schomer: ok lol
[2008/04/24 11:51] Kitty Schomer: im ssorry
[2008/04/24 11:51] Yati: ya
[2008/04/24 11:51] Max Schomer: Sorry not very good at explaining things online
[2008/04/24 11:51] Max Schomer: Right well
[2008/04/24 11:51] Max Schomer: Tapering a prim brings the top together as if pinching it
[2008/04/24 11:51] Yati: ho do we change the shape as u did
[2008/04/24 11:51] Kitty Schomer: y did yours go red??#
[2008/04/24 11:52] Max Schomer: Cos I made it red so it stood out and you looked at it :)

[2008/04/24 11:52] Kitty Schomer: ok

[2008/04/24 11:52] Max Schomer: Do you mean how do you Taper Yati?

[2008/04/24 11:52] Yati: ya

[2008/04/24 11:52] Max Schomer: Or how do you stretch or how do you change colour?

[2008/04/24 11:52] Max Schomer: Ok well to taper

[2008/04/24 11:52] Max Schomer: In the long edit panel click on object

[2008/04/24 11:52] Yati: ya

[2008/04/24 11:52] Max Schomer: And down in the right column at the bottom it says Taper

[2008/04/24 11:52] Kitty Schomer: i c it

[2008/04/24 11:52] Max Schomer: have a play about with that :)

[2008/04/24 11:53] Alisa Schomer is Offline

[2008/04/24 11:53] Kitty Schomer: ok

[2008/04/24 11:53] Kitty Schomer: rivz is gone

[2008/04/24 11:53] Max Schomer: probs crashed

[2008/04/24 11:53] Max Schomer: Positive tapering makes the top come in

[2008/04/24 11:53] Max Schomer: eg 1 will make it come in at the top

[2008/04/24 11:53] Max Schomer: Negative, eg -1 will make the bottom come in

[2008/04/24 11:54] Max Schomer: Understand now?

[2008/04/24 11:54] Yati: yes thanks

[2008/04/24 11:54] Max Schomer: fantastic :)

[2008/04/24 11:54] Kitty Schomer: yer

[2008/04/24 11:54] Max Schomer: I just wanted to make sure you understood that, it might come in handy later on :)

[2008/04/24 11:54] Max Schomer: wb Toby! :)

[2008/04/24 11:55] Max Schomer: you're both ok with changing textures and colours, ye?

[2008/04/24 11:55] Kitty Schomer: ye

[2008/04/24 11:55] Yati: ya

[2008/04/24 11:55] Toby Schomer uses anti gravaty to get in

[2008/04/24 11:55] Toby Schomer: grav -1

[2008/04/24 11:55] Grav Ring Beta Testing: Changing gravity to -1.000000%...
[2008/04/24 11:55] Max Schomer: lol Ben's new invention
[2008/04/24 11:56] Toby Schomer: grav1000
[2008/04/24 11:56] Toby Schomer: grav 1000
[2008/04/24 11:56] Grav Ring Beta Testing: Changing gravity to 1000.000000%...
[2008/04/24 11:56] Max Schomer: Nice Yati, even used twisting :)
[2008/04/24 11:56] Toby Schomer: grav 100
[2008/04/24 11:56] Grav Ring Beta Testing: Changing gravity to 100.000000%...
[2008/04/24 11:56] Alisa Schomer is Online
[2008/04/24 11:56] Max Schomer: Welcome back Alisa, having a few problems?
[2008/04/24 11:56] Alisa Schomer: yer
[2008/04/24 11:56] Kitty Schomer: brb
[2008/04/24 11:57] Kitty Schomer: bk
[2008/04/24 11:57] Toby Schomer: ahh i'm no longer n#banned

[2008/04/24 11:58] Kitty Schomer: y were u baned

[2008/04/24 11:58] Kitty Schomer: ??

[2008/04/24 11:58] Max Schomer: Never were

[2008/04/24 11:58] Toby Schomer: well it would nay klet me in the parcl

[2008/04/24 12:00] Max Schomer: Sorry just playing with the terrain

[2008/04/24 12:00] Max Schomer: ok so on a scale of 1-10 how interesting has this session been?

[2008/04/24 12:00] Alisa Schomer: lol

[2008/04/24 12:00] Toby Schomer is Offline

[2008/04/24 12:01] Kitty Schomer: wonder how i got there lol

[2008/04/24 12:01] Max Schomer: Right, I've got to go I'm afraid

[2008/04/24 12:01] Max Schomer: Will you be coming tomorrow?

[2008/04/24 12:01] Yati: ok thanks mars

[2008/04/24 12:01] Yati: c ya

[2008/04/24 12:01] Yati: i will

[2008/04/24 12:01] Max Schomer: byee :)
[2008/04/24 12:02] Kitty Schomer: yup i love this lesson
[2008/04/24 12:02] Alisa Schomer: i will 2
[2008/04/24 12:02] Max Schomer: great, we'll get a fair bit done tomorrow I hope
[2008/04/24 12:02] Kitty Schomer: sorry for the trouble
[2008/04/24 12:02] Max Schomer: See you :)
[2008/04/24 12:02] Yati: c ya tomorrow then mars
[2008/04/24 12:02] Kitty Schomer: ok
[2008/04/24 12:02] Kitty Schomer: bye
[2008/04/24 12:02] Alisa Schomer: bye#
[2008/04/24 12:02] Max Schomer: no worries Tiger- you've not been trouble :)
[2008/04/24 12:02] Max Schomer: bye
[2008/04/24 12:03] Yati: where is ur prim kitty
[2008/04/24 12:03] Alisa Schomer: kitty where u going?

[2008/04/24 12:03] Kitty Schomer: woops did it again

[2008/04/24 12:03] Alisa Schomer: lol

[2008/04/24 12:03] Yati: lol

[2008/04/24 12:03] Alisa Schomer: 1 hour till heroes lol

[2008/04/24 12:03] Alisa Schomer: yay

[2008/04/24 12:03] Kitty Schomer: r u watching heroes 2nightyati???

[2008/04/24 12:03] Kitty Schomer: i acnt wait

[2008/04/24 12:03] Yati: i will go now n come to see heros later

[2008/04/24 12:04] Kitty Schomer: * can't

[2008/04/24 12:04] Yati: is it at 9 kitty?

[2008/04/24 12:04] Kitty Schomer: ok it on at nine or channel 4

[2008/04/24 12:04] Alisa Schomer: yup

[2008/04/24 12:04] Kitty Schomer: no 2

[2008/04/24 12:04] Yati: ok

[2008/04/24 12:04] Kitty Schomer: channel 2

[2008/04/24 12:04] Yati: enjoy then

[2008/04/24 12:04] Kitty Schomer: bbc 2

[2008/04/24 12:04] Kitty Schomer: bbc 2

[2008/04/24 12:04] Kitty Schomer: ok

[2008/04/24 12:05] Yati: i will c u both 2morrow?

[2008/04/24 12:05] Kitty Schomer: ok

[2008/04/24 12:05] Alisa Schomer: its the 2md season

[2008/04/24 12:05] Kitty Schomer: ok

[2008/04/24 12:05] Kitty Schomer: *2nd

[2008/04/24 12:05] Yati: bye bye for now then, i hav little work to do

[2008/04/24 12:05] Kitty Schomer: ok bye